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Original Communications.

A CASE OF BLASTOMYCETIC DERMATITIS ENGRAFTED ON SYPHILITIC ULCERS.

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THE subject of the following report is a patient who consulted Dr. F. Henrotin, the first of last July, regarding extensive ulcerations of the left lower extremity from which he had suffered for the past 20 years. During this period, various methods of treatment had been employed without success. He was utterly discouraged, he believed that the only way to rid himself of the disease present was by amputation at the hip-joint, and he was ready and willing to undergo this operation, in fact he was rather disappointed when informed that an effort would be made to effect a cure by internal medication.

I am indebted to Dr. Henrotin for the privilege of studying and treating the case.

On examination of the patient at the time he entered the hospital,

July 1st, we found the following condition of affairs present. On the plantar surface of the foot at the metatarsophalangeal joint of the third toe, was an ulcer the size of a silver dollar, perfectly round in outline, not surrounded by infiltration; the base of this ulcer was covered by a growth of fungus granulations which projected fully an inch above the surface of the normal integument, forming an excrescence cauliflower-like, gland-like, or mushroom-like in character. This excrescence overlapped the borders of the ulcer like a mushroom, so that it was neces-



Blastomycetic Dermatitis Engrafted on Syphilitic Uleers.

sary to elevate and draw the mass to one side in order to inspect this border. The surface of this excrescence was somewhat uneven, of a grayish color and when viewed by reflected light presented the apple-jelly-like appearance of a lupus nodule; the mass was not fissured; it secreted a thin watery fluid of very offensive odor.

About the middle of the plantar surface of the foot were three similar lesions of raspberry size.

On the upper surface of each of the toes were ulcers identical in character with the ulcer we have described.

On the inner side of the great toe extending from the tarsometatarsal joint to the tip if the toe was an ulcer (well shown in the accompanying photograph) presenting the same general characteristics as that which we have described as present in the ulcer of the planter surface, but having an irregularly festooned outline and obviously composed of several lesions which had run together.

The entire surface of the heel involving an area the size of the palm of the hand showed an ulcer exactly similar in every respect to that which we have described excepting that the granulations projected even more than an inch above the surface.

On the inner side of the leg just above the maleolus was an ulcer four inches long and three inches wide, kidney-shaped, quite superficial, oval in outline, surrounded by some infiltration, the base of which was thickly studded with papillæ. of millet-seed size, somewhat warty in appearance, rather dry, of a dark-red or lichen planus color and also showing a waxy appearance by reflected light.

Just above the external malleolus was a scar the size of the hand somewhat stellate in form, smooth, depressed, regular in outline, not pigmented, obviously the relic of an ulcer which had been present at some previous time and formed by a number of ulcers which had coalesced. The surface of the upper portion of the leg also presented a large scar of a similar appearance so that almost one-half of the surface of the leg was made up of scar-tissue.

The surface of the thigh, extending from the knee to the apex of Scarpa's triangle on its anterior surface, and on its posterior surface, almost to the gluteal region and involving the entire circumference of the limb, was one enormous ulcer; there was no healthy integument to be seen in any part of this area excepting a small island about the middle of the anterior surface. The lower border was not distinctly defined and presented no points of especial interest, while the upper border showed an exceedingly well-defined line of demarkation, festooned in outline and showing marked infiltration and redness on the upper or healthy border.

This ulcer was superficial; in places it did not extend beyond the derma, while in other places it extended to the superficial fascia. The surface or base of this ulcer was thickly set with papillæ, which, over most of the surface, were dark red in color, millet-seed sized, and of a somewhat warty appearance, secreting a little serous fluid. On the lower part of the ulcer these papillæ were of a brownish cast, quite dry, and rough to the touch, obviously older lesions, while in the upper por-

tion near the line of demarkation they were soft and velvety and somewhat like flabby granulations. In many places the waxy appearance previously noted was present.

The secretion from the lesions of the foot was of a very offensive odor causing general complaint from patients in adjoining rooms. This, however, was controlled by frequent irrigations with a weak permanganate of potash solution.

The bone and all other subjacent tissues were normal; there was no anesthesia present, no lesions of other parts of the body or mucous membranes, no enlargement of lymphatic glands. The patient's temperature was normal, pulse 80, urine normal; the thoracic and abdominal organs were normal; there was no cachexia.

The patient gives the following history: His father died at the age of 40 of typhoid fever; his mother died of some disease of old age; he has one brother and one sister, both living and healthy; there is no history of carcinoma or tuberculosis in the family; he was born in Germany near Hamburg and came to this country at the age of 15; he is a barber by occupation, 44 years old, and since he has been in America has always lived in the State of Wisconsin.

In childhood he had measles, whooping-cough, inflammation of the bowels, and pneumonia, in adult life he has had mumps, and 20 years ago he had erysipelas of the leg which is now affected; this terminated in an abscess, which was incised, pus evacuated and starting from this incision ulcers formed, they appeared, healed, and reappeared gradually extending over the surface of the leg, and at no time during this 20 years has his leg been entirely free from ulceration. These ulcers he states looked like simple ulcers and only began to present a warty appearance about four years ago, while the large fungus masses on the foot appeared only one year ago.

The patient has been married 24 years, he is the father of ten children, three of whom died in an epidemic of diphtheria, the remaining seven are living and healthy; his wife has never miscarried. He denies all venereal history.

The differential diagnosis presented no very great difficulty. It was obvious that the case should be classed under the head of granulomata, and that of the granulomata the only diseases which required careful consideration were tuberculosis verrucosa cutis, and syphilis. The extensive character of the ulcerations, the fact that the lesions began as small ulcers which coalesced, forming large ulcers with festooned outline, the infiltration surrounding the large ulcer of the thigh and the sharp outline of the ulcers, together with the character of the scars, stamped the syphilitic character of the disease.

The type of syphilitic ulceration here present is what has been described by Kaposi as syphilis cutanea vegetans or frambœsiaformis, a rare form of syphilitic eruption, but one which every dermatologist has observed a few times, involving less extensive surfaces. This was my diagnosis on first seeing the case, but on further consideration I recalled to mind that at a meeting of the Chicago Medical Society in May, 1899, Dr. Eisendrath reported a case of blastomycetic dermatitis, and that in the discussion of this case Dr. Lieberthal made the following remark: "I am rather in sympathy with the second part of the title of Dr. Eisendrath's case, namely, epithelioma with blastomycetes. There is no such thing as a vegetable parasite settling on the normal skin. We can safely say that in every case where we find vegetable parasites on the skin, the skin was pathological before they immigrated. I recall a case presented to this Society not long ago. The gentleman used iodid of potash, and was very much surprised by the good effect of the remedy."

The more I think of it the more I am convinced that the case was one of gummatous ulcer complicated by blastomycetes. To attribute the cause of sarcomatosis to blastomycetes, as is lately done by the Italian school, is pure speculation. The case here referred to is the one reported by Hyde, Hektoen and Bevan.² Dr. Bevan, who was present at this meeting of the Society, stated that he believed that Dr. Lieberthal was correct in stating that this case was a gumma complicated with blastomycetes, inasmuch as the ulcer had recurred several times since the case was presented to the Society, and that each time it had yielded to the administration of iodid of potash.

I am not willing to accept all of Dr. Lieberthal's views as here expressed; suffice it to state, that the cases of Gilchrist³ and Buscke⁴ indicate to my mind that blastomycetes may be a primary infectious disease. Nevertheless, his remarks are of great importance inasmuch as they point out the necessity of always considering the possibility of vegetating syphilides being complicated by blastomycetes, and inasmuch as he makes it extremely probable that the case reported by Hyde, Hektoen and Bevan was a syphilitic ulcer on which was engrafted a blastomycetic infection.

With this discussion in mind, it seemed to me advisable to investigate the possibility of the vegetating character of my case being due to a blastomycetic infection superimposed on syphilitic ulcers.

On communicating with my colleague, Dr. M. L. Harris, who had seen this case several days before I first saw the patient, I ascertained that he had made this diagnosis. He therefore deserves the credit of being the first to diagnose correctly the case.

Following the teachings of Gilchrist, I first examined the discharge, but was unable to find the blastomycetes. Next, I examined the fresh excised tissue in a strong solution of caustic potash, without success; then I requested Dr. Herzog to imbed and stain the tissue according to modern technic. This was done, and after considerable search the blastomycetes were found, making it certain that this was a case of blastomycetic infection engrafted on syphilitic gummata.

This case teaches the importance of considering the possibility of all vegetating cutaneous lesions being due to a blastomycetic infection. In recent literature I have found several cases in which a thorough search for the blastomycetes should have been made. For example, Huber⁵ has recently reported from Rona's clinic in Buda Pesth a case of eczema, on the surface of which frambesiform lesions developed, due, as he believes, to a pus infection. In the discussion of the pathology of his case, he states that "the epidermal pegs of the malpighian layer of the skin reach, in many places, as small, narrow cell-lines into the subcutaneous connective tissue." This pathological finding is a very important point in the pathology of blastomycetes, and taken in connection with the clinical aspect of the case, suggests the possibility of this case being a blastomycetes engrafted on the eczematous surface, and had he previously seen our case, we are convince that this is the first possibility of diagnosis which he would have considered.

Treatment.—Internally, the patient was given iodid of potash in rapidly increasing doses, the maximum dose attained being 80 grains, four times daily, and 1 dram of mercurial ointment was employed as an inunction, night and morning. Within ten days a marked improvement in all the ulcers was observed, and we are convinced that they would have almost entirely healed under this treatment. But inasmuch as the patient was anxious to shorten his stay in the hospital as much as possible, we curetted the ulcers of the foot. At the end of six weeks, when the patient left the hospital, there remained only the ulcers of the toes, and three or four small ulcers on the thigh. These ulcers persisted for two months, and they have now almost entirely healed, leaving scars, but there is a constant tendency to recurrence of ulcers the same as has been noticed in Dr. Bevan's case. The syphilitic character of the eruption here present is too pronounced to admit of the possibility of this case being a case of primary blastomycetes resembling syphilis.

When this case was presented to the Chicago Medical Society, several of my dermatological associates expressed the opinion that this was a case of blastomycetes pure and simple, and not a secondary blastomycetic infection of syphilitic gummata. Should subsequent

study prove that this view is correct, the dermatologist of to-day is treating and curing with iodid of potash many cases of blastomycetic dermatitis on the false supposition that they are cases of syphilis, and iodid of potash, first used in blastomycetes by Dr. Bevan, has almost as great an influence on blastomycetes as it has on syphilis, and a far greater influence on blastomycetes than it has on actinomycosis.

Histology.—The tissue excised, which has been placed in Zenker's fluid at once, was subsequently embedded in paraffin, sectioned and stained according to various methods.

The histological features of the case are fully in harmony with what has been described as typical for blastomycetic dermatitis. The epidermal epithelia have proliferated extensively in the form of pegs and solid masses. These descend into the derma and into the subcutaneous connective tissue. The pegs and masses are frequently divided in a dichotomous manner. The epithelial cells nearest the derma, *i. e.*, those representing the stratum germinativum, have vesicular nuclei fairly rich in a coarsely granular chromation. The large protoplasmic cell bodies have distinct prickles (intercellular protoplasmic bridges). The epithelia found nearer to the surface have lost their prickles. Keratohyalin is not found to any great extent in the epithelial cells next to the stratum. The process of cornification appears to be very incomplete. Scattered between the epithelia are quite a number of leucocytes, not everywhere, but here and there. Some of the latter have wandered through all of the epithelial layers, and are found free on the surface. Places, however, where there was a complete loss of the epithelial covering, such as have been described by others in blastomycetic dermatitis, were not found in our sections.

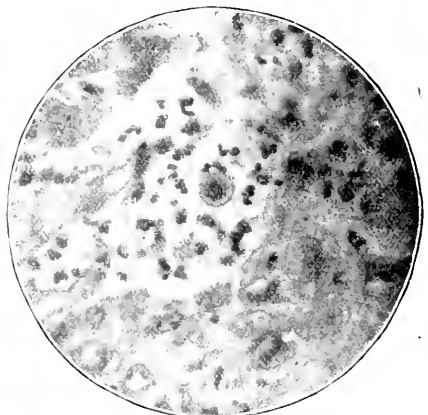
The proliferation of epithelial cells detailed above, presents a number of points of differentiation from the proliferation, as we find it, in skin cancers. Here the proliferating epithelia are frequently cut off from the soil from which they spring by completely surrounding layers of connective tissue and alveolar nests are so formed. This is nowhere found in our sections. Skin cancers practically always show the well-known epithelial pearls of cornified cells. These "onion bodies" are likewise absent in the tissues of our case of blastomycetic dermatitis. There were, however, found in the sections from our case a few places where the epithelia near the inner margin of a mass of epithelia had taken on a somewhat concentric arrangement; but the cells were not cornified, nor did they form numerous concentric layers. Furthermore, the proliferating epithelial masses contain numerous small, roundish or oval abscesses. The wall of the latter is formed by flattened, though not cornified, epithelia, and the cavity contains a large

FIG. 1.



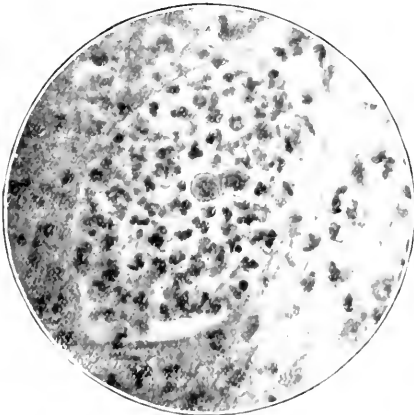
Section showing epithelial proliferation. Two small abscesses in an epithelial peg at left of field.

FIG. 2.



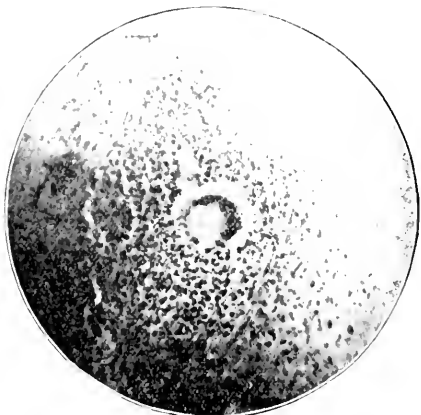
A double-contoured blastomycete in the center of the field.

FIG. 3.



Two blastomycetes near center of a small abscess.

FIG. 4.



Giant-cell in center of an abscess.

number of densely crowded cellular elements. The ordinary polynuclear leucocytes are predominating. Next in number come eosinophile leucocytes and a few plasma-cells. Among these animal-cells we find the vegetable parasites, the blastomycetes. Some abscesses particularly the smaller ones, contain quite large numbers of the yeast fungi. Twenty and more could be counted per section in some small abscesses. The blastomycetes are from 15 to 20 micra and more in diameter. They are double-contoured. The outer contour represents the cell-membrane, the inner contour the outline of the retracted cell-protoplasm. Some blastomycetes are perfectly round, some have small nipple-like buds, some have large buds, others represent two cells adhering together by a small bridge of plasma. The organisms are found singly between the leucocytes, or in groups of two, three, four or five. The protoplasm of these vegetable cells generally behaves as a basophilic substance, occasionally, however, as an acidophilic body. In sections stained by the eosin methyl blue method there could sometimes be seen, side by side, two blastomycetes, in one the protoplasm is blue, in one reddish yellow. This appearance could not be attributed to an inequality in decolorizing, since it was also noticed in sections stained with hematoxylin eosin. In these the protoplasm of some of the yeast fungi had intensely stained with eosin and not as usual with hematoxylin. The protoplasm, whether acidophile or basophile, is generally finely granular; large, coarse granules are also seen occasionally. About the presence or absence of nuclei we are in doubt; none could be satisfactorily demonstrated. Some of the sections show giant cells in the abscess cavities. The large multinuclear cells are of the same type as those found in tuberculosis. The vesicular nuclei are distributed in a peripheral manner; their centre often contains one or two blastomycetes, usually in an advanced state of degeneration. Blastomycetes are also found in contact with the periphery of giant cells and then as a rule surrounded by protoplasmic processes (pseudopodia) of the former. In some places the blastomycetes may be seen between the epithelia of the abscess wall.

The connective tissue surrounding the epithelia is in a condition of inflammatory irritation. The cellular elements are numerous and often densely crowded. Plasma cells are present in great abundance. There were found places where these cells are present in large aggregations, almost to the exclusion of all other cellular elements. The plasma cells are very typical; they generally show a more or less square cell body, with deeply staining, ragged protoplasm, and an ex-centric vesicular nucleus, not very rich in chromatin. Some of the

plasma cells, showing very large basophilic granules represent the type of the plasma "mast cells."

No other micro-organisms but blastomycetes were seen in the tissue.

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⁴ *Vehr d. Derm. Gesel.*, VI. Congress.

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A CASE OF MACULAR LEPRIDE OF THE SCALP—WITH REMARKS ON THE LOCALIZATION OF LEPROUS LESIONS.

BY PRINCE A. MORROW, M.D.

IT is well known that the distinctive characters of many dermatoses may be exhibited as strongly in their localization as in the lesions they occasion. Most skin diseases manifest a decided preference for certain regions of the body, while avoiding particular localities, or affecting them only rarely and exceptionally. Locality thus furnishes a valuable clue in diagnosis and oftentimes skin affections of similar appearance, but of dissimilar nature, may be differentiated by their localization alone.

Even diseases of generalized distribution manifest a predilection for certain regions, where they are most characteristically developed, upon which they first appear and from which they last recede, as may be seen in the eruptive fevers. The well-known preference of psoriasis for the extensor surfaces, especially of the elbows and knees, of eczema for the flexor surfaces, are also cases in point.

No less singular is the exemption, comparative or complete, of certain regions from invasion by certain diseases. Thus psoriasis of the palms is so exceedingly rare that the diagnosis of palmar psoriasis may be excluded without the antecedent or coincident development of the disease elsewhere. Many other illustrations of regional immunity readily suggest themselves.

The cutaneous manifestations of leprosy exhibit in a marked degree

¹Read in part before the American Dermatological Association, June 11, 1899.

this preferential determination to certain regions. They almost invariably make their first appearance upon the face, hands or feet, or about the ankles, and, while in the further evolution of the disease they may become generally distributed, yet these predilected localities continue to be the seat of the most active and characteristic changes.

A curious fact about leprosy is that the two principal forms, although etiologically identical, show marked differences, not only in the character of the cutaneous lesions, but also in their localization. As a broad, general distinction, it may be said that the erythematous patches of the tubercular form are transient in duration and may disappear and reappear a number of times before becoming the seat of tubercular infiltrations, while those of the anesthetic form are essentially permanent. Again, the eruption of the tubercular form is more apt to appear on the anterior plane of the body, while the patches of the anesthetic form are more numerous upon the posterior aspect. This by no means implies the limitation of the eruption of either form to the anterior or posterior surface, but simply that the front of the body is a predilected locality for one form of the disease, while the back is more apt to be affected in the other. There are, doubtless, individual exceptions to this generalization, but in the observation of a large number of cases it will be found to be correct.

If one examines a tubercular leper, with his arms hanging down naturally, the dorsal aspect of the hands presenting in front, it will be noted that the tubercles occupy the facial mask, the front of the ears, the dorsum of the forearms and hands, the anterolateral aspect of the thighs, the front of the knees and legs, and the dorsal aspect of the feet. There may be small scattered tubercles over the chest and abdomen, and also upon the back, but the first-mentioned localities constitute seats of predilection upon which the tubercles are most abundantly and characteristically developed. In the anesthetic form of the disease the earlier spots may appear upon the face and front and sides of the ankle, but in the further evolution of the eruption we find that it has a predilection for the buttocks, the back of the shoulders and the posterolateral aspects of the body generally.

As regards the exemption of certain surfaces of the body from leprous manifestations, no region can be said to be absolutely immune. In contrast with the face and limbs the trunk enjoys a comparative immunity. Hutchinson says, "Tubercles occur only on certain parts of the surface, the face and hands chiefly," and in his descriptive catalogue of the extensive collection of cases in his Clinical Museum, says, "No portrait that I possess shows them on the trunk." In countries

where leprosy is endemic there will be found numerous cases showing tubercles on the trunk.

While the genital surfaces are frequently the seat of leprous lesions, most authorities affirm that tubercles never occur upon the glans penis—yet, I have examined a Chinaman upon whose glans there were two or three distinctly defined tubercles.

The palms and soles exhibit a comparative immunity. They are but rarely affected in the anesthetic form, more frequently, perhaps, but still rarely, in the tubercular form.

The region of the neck seems to enjoy a remarkable immunity from leprous manifestations, a clinical fact which seems to have been overlooked, or at least has not been generally noted by text-book authorities.

The temples are rarely the seat of tubercular lesions. Even when the forehead and ears are profusely studded with tubercles, the intervening portion constituting the temples may be entirely free.

By almost all authorities the hairy scalp is said to be absolutely exempt from all leprous changes. The infiltrations and tubercles may cover the face, spread upward over the forehead, and reach to the roots of the hair, but here their further advance abruptly ceases. Owing to the exemption of the scalp from leprous infiltrations, the hair of the head remains intact, so that it is no unusual spectacle to see a leper with a magnificent head of hair, whose eyebrows and beard have disappeared and his entire body glabrous. Hebra and Vidal are the only authorities who, so far as I am aware, mention the occurrence of tubercles and infiltrations upon the hairy scalp, and they note them as exceedingly rare and sparsely developed.

In this connection the following case possesses an unique interest, as it is the only one I find recorded of a macular lepride of the scalp. It will be seen that in this case the eruption extends up over the frontal portion of the hairy scalp to the vertex, and on the left side it sweeps backward behind the ear, involving a large area of the scalp.

S——, aged 47 years, born in Bermuda. Mother living, in good health. Father died at 65 (22 years ago), the patient states, of some kind of "skin disease" of many years' duration. His face was blotched, his lips were swollen, the lobes of the ears hung down, and he is reputed to have had syphilis. The mother and father had lived together 40 years. The mother is now living, in good health, 83 years of age. Of the seven children, two brothers and two sisters died of lung trouble. The youngest child died thirteen or fourteen years ago, at the age of 16, from some form of skin disease. He had an eruption of the skin and swelling of the face for five years previous to his death.

The patient left Bermuda, at the age of 17 years, to become a sailor. He visited the West Indies, the Mediterranean, was in hospital at Constantinople for a long while, and made several voyages to Bombay and other parts of the East Indies. He also made voyages to various West Indian and South American ports. He came to New York in 1883, and has lived here since continuously with the exception of a few trips in a sailing-vessel down East.

The patient first noticed a spot in the middle of the forehead just above the root of the nose, sixteen years ago. It remained apparently



Leprosy Affecting the Hairy Scalp.

stationary for a long time, and then began to spread gradually downward over the nose, cheek, and upper lip, and upward, involving the entire surface of the forehead and creeping up into the hairy scalp and downward again to the junction of the chin with the neck. Three or four years ago it extended behind the ear and upon the left side. For years he had experienced stinging sensations in the face, and about six months ago he noticed a numb or "dead sensation," as he termed it, over the entire region of the face. The eyelashes have entirely disappeared, but the eyebrows are intact. The distribution of the eruption

over the right side of the cheek and forehead, and extending up into the hairy scalp, is seen in the accompanying illustration. On the left side the patch has extended backward behind the ear to a point half-way between the ear and the occiput, and the plainly defined hyperchromatic margin sweeps upward in the hairy scalp, to join the patch on the right side shown in the picture; it extends downward to the neck. There are two circular, palm-sized patches, one over the left deltoid region and one on the lateral surface of the left leg, which were first observed eighteen months ago; the patient thinks that they were then about the same size as now. There is also a large circular patch beginning at the root of the toes and embracing within its area almost the entire instep of the right foot. The patient does not know when this patch first appeared. He noticed twitching of the muscles of the toes and the loss of feeling over the instep of the right foot twelve or eighteen months ago. At the present time this patch is almost completely anesthetic. There is some enlargement of the peroneal and ulnar nerves. He has noticed for a year or more that upon awakening he finds the left arm asleep. This phenomenon occurred only occasionally at first, but now it is frequently observed in both arms. He frequently, upon awakening, notices the fingers of both hands asleep, the sensation being most pronounced in the little and ring fingers.

The patient had syphilis fifteen years ago, and an attack of gonorrhea, which infected his left eye and impaired the eyesight. He had epilepsy until twenty-five years ago. After an attack of yellow fever, in 1863 or 1864, from infected clothing, his epileptic seizures disappeared, and his general health has since been much improved.

THE ETIOLOGY AND RATIONAL TREATMENT OF URETHRAL ARTHRITIS AND ALLIED AFFECTIONS.

BY A. MACKENZIE FORBES, M.D.,

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IT is universally acknowledged that to Selle and Swediaur¹ is due the credit of having first indicated that the coincident urethritis is the cause of what is known as "gonorrheal arthritis."

John Elliotson,² in an interesting article on this disease, says: "My first knowledge of the occurrence of the disease was obtained from Sir Astley Cooper's lectures, which I attended at St. Thomas Hospital in 1806-7 and 1807-8. How many years previous he had mentioned or seen it, I cannot say."

The views expressed by these gentlemen seem to have been accepted by many, as is shown by the words of Sir Astley Cooper, who in 1824³ gave notice of the fact that gonorrhea may be followed by painful disease of the joints.

In 1874 Dr. Pye Smith⁴ voices the more enlightened views of that period when he states: "Some of my surgical colleagues were until lately disposed to maintain that the relation between the two affections was merely accidental, but it is observed far too frequently to admit of such an explanation."

Thus the history of discussions on this malady may be followed for succeeding years up to 1879, when the discovery by Neisser of the gonococcus and the observations made on it a little later by Baumm, opened new fields for consideration.

The advanced schools no longer discussed the relationship of the arthritic symptoms to the discharge, but their relationship to the gonococcus.

One school held that the micro-organism caused the arthritis, and another school held that the arthritis, while due to the gonococcal infection, was only so by the absorption of its toxins from the urethra. But this latter school received a rude blow by the discovery of the gonococcus in the joints, by Petrone, Neisser, Long, Bordoni, Kammerer, and Affreduzzi; and when to this was added the statement that in certain of the cases, where the specific germ was not found in the synovial fluid, if the synovial membrane had been more carefully examined more cases would have been proven to be due to this organism,

many who had previously favored the toxin theory went over to the other camp.

Now, perhaps, it might safely be said that many hold the views expressed by W. Gilman Thompson,⁵ "where it" (the gonococcus) "has not been found it may have been previously present and destroyed." Perhaps the more cautious thought that, at least in some cases, or at some period in many other cases, the arthritis is directly due to the immigration of the gonococci to the joints, while in others it is probably due to the circulation of their toxins, as held by the majority.

Here, perhaps, it seems wise to consider the views of some who, to quote the late Dr. R. P. Howard,⁶ believe that "an affection apparently identical is rarely observed associated with non-contagious urethral discharge, and with the urethral irritation incident to catheterization and to stricture." Dr. Howard here quotes as his authority for the whole, or a part of, this statement the same John Elliotson who has been previously quoted. In a paper written by this surgeon, we find mentioned first two cases of Sir Benjamin Brodie's.⁷ The first, to use his words, "could not ascribe the disease to infection." The second, again quoting verbatim, "suffered from stricture in the urethra and, although rheumatism took place twice with gonorrhea, it took place twice also when there was no gonorrhea." Elliotson then says: "Brandes also considers that the rheumatism may be re-excited after all gonorrhea has ceased, if the urethra is irritated by any common cause."

With these and other cases the writer attempts to prove that the arthritis is due to other than "venereal gonorrhea."

It is hardly necessary to point out that, while the arguments brought forward may have been conclusive when they were written in 1860, that now, when through the discovery of the gonococcus we have been able to demonstrate gonococci years after an attack of urethritis has been called cured, the majority of these so-called "non-contagious" cases were due to gonococci which, perhaps having lost their virulency, lurked in the peri-urethral tissues until by instrumentation or other means of increasing the urethral vulnerability, or the gonococcal virulency, they have again set up a urethral infection.

Now that we have considered the sources of the disease, the following broad statement might be made, on which to base a plea for treatment.

Urethral arthritis is either due to the migration of the gonococcus or some other microbic habitant of the urethra to the joints, or it is due to the absorption of the toxins eliminated by these habitants.

The following can be deduced from this statement:

(1) If it is due to the migration of the gonococci from the urethra

to the joint, as we know from experimental evidence, and from the fact that they have been found so rarely in other than the acute stages of the arthritis, the gonococci do not tend to flourish in the joint, but rather to die out, it may be safely said that the rational treatment of this malady is to cut off the source of supply in the urethra.

(2) If it is due to the migration of other habitants or (3) if it is caused by the absorption of toxins from the urethra, we may assume that all exacerbations are due either to reinfection of the joint or retransference of toxins to the joints and we may certainly trust to disinfecting—lavage and other local treatment.

It seems that there is but one practical deduction to be taken from this argument, *viz.*: To cure a urethral arthritis, no matter what may be its origin, the urethra must be kept as absolutely sterile as it is possible to keep that canal, and its mucosa must be without abrasion.

Till this is done the surgeon can never be sure that he will not have an exacerbation in his patient's joints.

Now what has been done to treat this affection in the past?

Has the urethra received the attention which it demands?

The following notes will perhaps help to answer these questions:

Last spring a youth came to the Good Samaritan Dispensary in New York, with the following history:

He had his first attack of urethritis nine months before.

At the end of the first week the discharge suddenly ceased. Two weeks later his back, shoulders, elbows, knees, and feet began to be affected with pain. These pains were not accompanied with swelling. In about ten days from their onset, with almost as great suddenness as had characterized their onset, they left all these regions with the exception of his left knee, which now became swollen to "about three times its usual size." At the onset, he put himself in the hands of a physician, who treated him for two months with both internal and symptomatic treatment. He then lay in a hospital for two months, with his knee fixed in plaster-of-paris. He now tried one of the older and more prominent hospitals, and there for one month underwent treatment by massage and fixation, but still he was a sufferer, and we find him next patronizing another New York hospital for a course of hot-air baths.

He came to the dispensary with a stiff knee, which pained him if used for any length of time. He was sure that he had had no coitus during all this time, and yet an examination of the urine showed distinctive signs of urethral disease, and the patient was positive that he had never had, to his knowledge, any active treatment directed to his urethra.

This is a type of many cases where treatment directed to the

urethra has been almost, if not altogether, neglected, the cause of the arthritis forgotten, and a symptomatic treatment substituted.

The following notes, which are submitted for your consideration, were taken from reports of cases treated in hospitals and privately in both Montreal and New York.

Duration of the Arthritis.—In 31 cases the duration at the time of cessation of active treatment was roughly an average of a little over ten months.

Result of Treatment.—In 43 cases, the result was 8 marked cured; 2 with urine marked normal. Consequently it is difficult to say how many were really permanently cured; five marked greatly improved; 20 marked "improved"; 4 marked "somewhat" or "slightly improved"; 6 marked "not improved."

Record of Treatment of 43 Cases.—Thirty-three had antirheumatics, tonics, hot-air baths or local arthritic treatment; 10 had urethral treatment, and of these, 4 had topical treatment, as injections or instillations, 2 had copaiba, and 4 had alkalin mixture.

It is notable that in no case where there was not actual urethral discharge was there any attempt at urethral treatment.

As perhaps some may be prepared to agree that the treatment given in this series of cases has not been entirely satisfactory, a synopsis of what has been considered to be a suitable method of dealing with these cases will be given.

The treatment of urethral rheumatism is the treatment of the urethra with the addition of symptomatic and general treatment for the arthritis.

The urine and the genito-urinary tract must be carefully considered.

The anterior urethra, the posterior urethra, the prostate, and the vesicles demand attention.

In acute cases, and especially in chronic cases, we must learn what region is the seat of the suppuration.

By the "two-glass test," bougies à boule, rectal examination, and even the endoscope, we must ascertain what particular part requires treatment, and this part must receive careful attention.

By treatment we should be able to eradicate the source of the disease, but the arthritic symptoms also are of vast importance, as unless we care for our joints we cannot hope to save them. Of least importance, perhaps, is the general antirheumatic treatment, but still it deserves attention.

It is unfortunate that statistics cannot be given to demonstrate the result of what is plainly the rational treatment of this malady, but the report of what might be considered an average case will be given to

illustrate the urethral treatment and to point out how patiently urethral treatment must be carried out, often long after the arthritic symptoms have disappeared, until the urethra is known to be perfectly healthy.

It is to be hoped that, before another year has elapsed, sufficient cases treated in this manner will have been collected to thoroughly demonstrate the benefits of urethral treatment in cases of urethral arthritis.

Before closing, there is one other class of affections which is usually mentioned with the urethral arthritis, the ocular affections, which, though not due to contagion, are coincident with, and even dependent on, a urethritis, must be spoken of.

Although the positive causation of these lesions has not been demonstrated, it seems but rational that the treatment of these, like that of the arthritis, should be principally that of the urethra.

In closing these few notes, the writer wishes to state that the thought that too little attention is paid to the urethra in these cases was first brought to his notice by Dr. Swinburne of New York, who has for many years unceasingly labored in the study of pathological conditions of the male genital organs.

EXTRACTS FROM A CASE REPORT OF A PATIENT SUFFERING FROM URETHRAL ARTHRITIS.

October 17, 1899. The patient, a man of about 25 years of age, came to me five days after he had first noticed a urethral discharge, with the following history:

He had always had good health, with the exception of having an attack of urethritis two or three years ago, from which he believes he had perfectly recovered. Although he has never suffered from rheumatism, there is a family history of this disease.

Examination.—Showed a profuse, purulent discharge. By the microscope gonococci were found. Urine demonstrated both anterior and posterior urethra to be affected.

Treatment.—(1) A pill containing boracic acid and methyl blue, as recommended by Swinburne of New York, to be used till inflammatory symptoms cease. (2) Lavage of the anterior urethra with hot permanganate solution t. i. d. (3) Injection of protargol after lavage.

Diary.—The case seemed to be doing nicely. The inflammatory symptoms ceased to bother the patient. The urine by the "two-glass test" appeared to be clearing up, and all was progressing favorably until five days from the commencement of treatment, when he came to me, complaining of slight pain in the left ankle. Examination demonstrated little but slight tenderness. This appears to have got rapidly worse,

and during that night patient was much disturbed with pain in the left ankle and greater pain in the same wrist, with rise of temperature and sleeplessness.

October 23d—Urine about the same as before. Examination showed left wrist to be swollen, red, and tender; right knee, red and tender, especially at the borders of the quadriceps tendon; the right ankle was also painful. Temperature, 101. Pulse, 120.

Treatment.—(1) Calomel trit. grs. $\frac{1}{4}$; one every hour till action is produced. (2) Cap. Ol. Gaultheriæ $\mathfrak{m}\times$; one every third hour. Also continued Pil. "Boro-methyl" and lavage, but changed the injection of protargol into the anterior urethra to the instillation of the same drug into the posterior urethra. Fixed affected joints with bandages. Patient was begged to take to bed, but without avail.

October 26th—3:30 A. M. Called to patient's residence to find him suffering with intense pain in left ankle, for which I was forced to use morphia. At 4 P. M., patient is a little better, but the left ankle and wrist are swollen and tender. Urine showed pus in both glasses. Treated as before, with the exception that the dose of wintergreen was greatly reduced on account of tinnitus aurium. Placed affected joints in thick starch bandages, to insure absolute rest. It is needless to say that patient is now content to stay in bed.

October 31st—Patient is better—T. $98\frac{2}{5}$. As the "two-glass test" shows a marked phosphatic cloudiness, I have changed the Pil. Boro-methyl to urotropin, as it has been found that the blue urine of this treatment cannot be sufficiently cleared with acid to act as an index to the urethral condition. Treated as before.

November 7th—Patient has received daily treatment and has daily improved, as to general condition, condition of the joints, and the urine, as seen by the "two-glass test," till to-day, when both glasses are macroscopically perfectly clear. The temperature has kept about normal. Since last note he has had two very slight exacerbations, one in the ankle and the second in the wrist, but no time since the last entry has he lost sleep through pain. Both exacerbations have been accompanied by slight pain and edema, and in both cases the edema and inflammation have followed the tendon-sheaths for four or five inches from the point. In the case of the left wrist it descended into the sheaths over the carpal and metacarpal bones. In both cases a line of redness and tenderness has ascended from the joint to the nearest lymphatic glands, popliteal space and axilla, respectively. The patient is still kept in bed and treated as before.

November 10th—The first glass has been greatly improved, and the second has been perfectly clear since last entry. Patient's ankle is now

practically well, but his left wrist and forearm still trouble him. The wrist shows not only a good deal of edema, but also a localized swelling on its dorsal surface. This fluctuates slightly.

Treatment.—Changed the lavage and instillation to lavage and injection of protargol into anterior urethra. Dressed his left wrist and forearm with wet dressings.

November 14th—Urine: First glass still shows a few shreds; second glass looks normal. The left wrist and elbow are now practically well again. Was telephoned this evening that the right wrist now pains him slightly, but there is little or no swelling. This is curious, as last night he complained of slight pain in both knees, which disappeared before morning, however. These pains must be either neurotic or the infection has changed to the ambulatory-arthralgic variety, and if so, it is significant that each exacerbation has been of a milder character than the preceding one. It is possible that under treatment, etc., the gonococci are becoming less virulent.

November 17th—Both urines look normal. All joints are perfectly normal, but patient says he thinks that last evening, by forcibly flexing and extending his limbs, he could elicit slight pain "as though they had been stiff."

November 22d—Both urines are macroscopically perfect. Have made a careful examination of the patient's joints to see if any lesion has been left, and as the left wrist is of slightly greater circumference than the right one, although there is neither tenderness or loss of function, I have again used a lead iodid plaster over-strapped with Mead's adhesive plaster.

November 29th—Patient has been in perfect condition since last entry. He now pursues his ordinary work and, except for the existence of a few shreds in the first glass of urine, retained in the bladder for nearly twelve hours, he is in absolutely normal condition.

The urethra must be examined, if necessary, a little later, with the endoscope, and treatment persisted in until his urethral condition will justify his discharge as cured.

164 Peel Street, November, 15, 1899.

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THE URETHROSCOPE IN THE TREATMENT OF STRICTURES.

BY HENRY KOCH, M.D.,
Rochester.

THE value of a new instrument is better demonstrated by the relation of cases, where it has been used with advantage than by academic lectures.

So far the opinions about the merits of the urethroscope for examination and treatment of urethral affections have been divided, but gradually its value has been recognized and the view that it can be dispensed with is not longer supported. Still, such an authority as Janet, who edited the third volume of Guyon's lectures on "Maladies des Voies Urinaires," and treats therein the urethroscope and cystoscope, gives the former only a *succès d'estime*. He admits its usefulness to establish a diagnosis when other methods fail; not more. But even the best methods are not infallible, and so this is an admission that the instrument can be of value under conditions which are not infrequent. As said before, he gives the urethroscope only an honorable mention, while full recognition and praise is accorded to the cystoscope. When Janet wrote this opinion he certainly did not know the urethroscope with heatless light, or his judgment might have been different. The following case will show that the present urethroscope is not only an instrument for diagnosis, but can be used for other and very important practical purposes, for which certainly the endoscope so far in existence could not be used.

T. H., 39 years old, painter by trade. When 10 years of age he was injured by a kick on the perineum from a play-fellow. He was standing with his legs apart, and so the perineum was struck with full force. Eight years later he received another injury, also to the perineum, by being thrown from an unruly horse, astride on a wagon-pole. At the age of 20 he seems to have been infected with gonorrhea. The symptoms, as he describes them, were very mild, and after two-weeks' treatment with some remedy bought in a drug-store, he believed himself to be cured. But there must have been some sequela, because six years

afterward he had one retention of urine for twenty-four hours; he was treated with the usual household remedies—hot teas, hot fomentation—and got well. Married at the age of 26; sexual intercourse seems to have been normal. At the age of 30 he observed for the first time (after imbibing freely) involuntary discharge of urine, which wetted his clothes. This state became worse in time, and when his bladder was filled to a certain degree the urine dribbled constantly from it. Symptoms of cystitis appeared, frequent and painful desire of urinating, incontinence, permanent dribbling of urine. He was treated then by a physician; a methodical treatment by sounds was proposed, but refused. There was gradual spontaneous improvement after some time, but the urine remained turbid and was passed in a thin stream. His trouble became aggravated, always the same incontinence and stranguria, the urine was thick and evil-smelling, turbid, and voided slowly, until in December, 1898, he had a severe chill. A lump undoubtedly due to peri-urethral infiltration, formed under the perineum, which was, as he describes, large enough to make sitting and walking very uncomfortable. Under the constant use of urotropin he recovered gradually so far that he could leave the bed. At this period the patient was brought under the observation of Dr. Theodore Fisher here. He is a member of a Mutual Aid Association, and it is Dr. Fisher's official duty to visit the beneficiaries. Dr. Fisher suggested the presence of stricture, which opinion was not shared by the attending physician. As no further improvement was observed, he was put under the care of Dr. Fisher, who found the following status:

March, 1899, first examination. Meatus passable only for a No. 8 bougie, which was arrested before the compressor; from there the urethra was impassable for even the finest bougie, although passable for urine, which was voided by constant dribbling and by occasional efforts.

March 8th. Meatotomy was performed and a No. 30 sound was passed through for about a cm. and a half. The posterior part of the urethra was a row of strictures permitting only a No. 12 bougie to pass until the compressor was reached, where further progress was impossible. During March, gradual dilation to a final No. 21.

April 1st. Patient was brought to me by Dr. Fisher for consultation and urethroscopic examination. The tube passed to the middle pars pendula, and inspection revealed that the mucosa of nearly the whole length had been changed into a hard, infiltrated tissue of grayish-white color. A No. 8 bougie found its way to the bulb, where further progress was stopped. We tried to pass filiform bougies after all the improved methods for two hours, but without success, and desisted, fear-

ing to cause inflammation, swelling, and complete retention. It was then decided to dilate the urethra to a No. 26 urethrosopic tube, and find the peripheral opening of the strictures, guided by light. For this purpose a short, straight, two-bladed Oberländer dilator was used with good success, but it was not until July 1st that the urethra was deemed wide enough for our purpose. This long interval was not due to delay in dilating the size desired, which was performed readily to our full satisfaction, but rather to the carelessness of the patient. It was the very busiest season of the year for a painter, and being unwilling to neglect his contracts, he did not present himself for treatment as frequently as he was told to do. Luckily for him the constant dribbling and daily, although difficult, voiding of small quantities of urine prevented serious trouble. His bladder was certainly never emptied.

July 1st. After cocainizing the urethra a Koch tube No. 26 was introduced. This tube differs from all endoscopic tubes so far constructed for the urethra by having the lamp-carrier and lamp held sepa-



ately in a small, separate tube under the larger endoscopic tube proper. The light is thrown through an opening on the surface to be illuminated. What is lost in space is made up by the great advantage this arrangement gave for our purpose. The surface, where the opening of the stricture appears, can be cleaned easily, the inside of the tube can be wiped dry, and all of the lubricant used for introduction can be wiped off; all this, while the light is *in situ*. This is rather important for success, because the light flexible whalebone of filiform bougie will cling easily to the wall of the urethroscope if the same is not as dry as possible. For the same reason the "Valentine" urethroscope is not well adapted for the work described, because the filiform gets easily entangled with the light-carrier. The endoscope was pressed gently against the stricture, and what was found to be the opening came into view directly; a little to the left of the field, in a white, cicatrized mass (Oberländer's deep, hard infiltration) appeared a tiny, little red speck. Into this the filiform whalebone bougie slipped easily, and found, to our great satisfaction, its way into the bladder. So we arrived in a few minutes at the most satisfactory results which we tried to attain for

hours without success ~~when we worked in the dark~~. Considering the state of the bladder and relying on the ease with which we could introduce the bougie under the guidance of light, the whalebone was removed, although it had a screw attachment for the LeFort sound. A filiform bougie for Guyon's instruments was introduced with the same ease, and connected with a No. 10 sound, which, by slow and gentle manipulations, was passed through the stricture into the bladder. This No. 10 was followed in rapid succession by No. 10½ and Nos. 11, 11½, 12, 12½. The Guyon instruments used have been made here, and in preference to the scale of Guyon the increase has been marked by half numbers, so that a No. 12½ corresponds to a No. 25 Guyon. This was deemed sufficient for the beginning, and about 5 ounces of warm boric-acid solution was injected by a Janet irrigator, from a height of three yards, into the bladder (showing that the stricture was passable) which was voided in a passable stream to the great astonishment of the patient. There was no reaction. Before attaching the Guyon sound we took a good look through the megaloscope, the filiform bougie being *in situ*. The picture was very interesting. The stricture appeared as a fine, red line running in zig-zag across a white field. It could be compared best to a laceration of the cervix, in the centre of which a No. 6 to No. 8 bougie was sticking.

July 5th. Nos. 13, 14, 15 and 16 French bougie were passed. The rest can be told in a few words. After passing a soft bougie, No. 22, metal sounds were substituted and used until a No. 28 sound was easily introduced, which was four weeks after passing the filiform whalebone. The patient declares that he does not remember urinating so well, and never in such a stream, during his whole life. This seems to prove that the stricture was partly of traumatic origin, the result of an injury to the perineum when young. But the enormous pathological changes in the anterior part of the urethra, which could be studied in all its phases by the urethroscope, must be the consequences of gonorrheic infection. This case demonstrated again that sometimes a gonorrheic urethritis of a very mild type can produce deep and hard infiltrations, with consequent bad forms of strictures. We sometimes meet patients with strictures, especially those who discover the trouble in later years, who declare that they never had any affections of the urethra, or at least it was so slight and so long ago that they have forgotten about it. When told that the slight trouble was probably the cause of the present great trouble, then they certainly remember. During the treatment the patient was only two or three days confined to the house; there was no fever. Urotropin was used as a precautionary measure. Improvement could not only be observed by the steady increasing caliber of the

sounds introduced, but we also could follow the rapid softening and resorption of the indurated masses in the most marked and interesting way by the urethroscope. We could see from week to week how healthy red tissues, interspersed with white plaques, appeared, where some time before the endoscope revealed nothing but white, fibrous masses. Wossidlo of Berlin speaks of regressive and progressive morphosis of the mucosa of the urethra. He contends that the formation of a stricture, the progressive process, and the resorption of stricture tissue, the regressive process, give the same urethroscopic picture. Upon these facts he bases his opinion that the urethroscope is a very important factor in the diagnosis of forming and advancing strictures. In this case certainly we could observe and watch the healing regressive process to our fullest satisfaction. Photograms were taken from time to time, so as to preserve the dates of this real rapid recovery and regeneration of the urethra. With a more perfect camera I hope to get sharp and well-defined pictures of the different aspects of a strictured urethra in all its phases during treatment, which will be intelligible to every one who has once seen a normal urethra by the urethroscope.

19 Clinton Street.

Clinical Note.

AN UNUSUAL COMPLICATION OF SUBACUTE GONORRHEA.

J. HENRY DOWD, M.D.,

G.-U. Surgeon, Buffalo Hosp., Sisters of Charity.

PATIENT, male; æt. 28; occupation, merchant; gave following history. First venereal disease. Last coitus on September 14, 1899. In seven days noticed itching, ardor-urinæ and slight drop of watery substance at the meatus. Consulted a physician who diagnosed urethral chancre and passed a sound, after which he injected some medicine in the urethra. This was repeated a couple of times in the next seven or eight days, when patient called on me. This was about fourteen or sixteen days after infection.

At this time he presented a typical case of subacute gonorrhea plus symptoms due to irritation. Gonococci were found and treatment was commenced at once with injections by the patient himself and sandalwood oil internally.

October 10th, he reports: All symptoms practically gone and no discharge for two or three days; first urine contains many small shreds and gave foggy appearance to print, the cloudiness being due to pus.

Second, foggy but less opaque than first. A solution of silver nitrate 2.5 gr. to 10 ounces of water was injected into the bladder, and immediately passed out.

October 13th. Reports that he took several glasses of beer a few nights before and this morning shows slight drop of watery substance at the meatus. Both glasses of urine markedly opaque, showing inflammation extending from the meatus to the internal sphincter. Bladder injection was made of zinc sol., grs. 3 in 6 oz. of water.

October 14th. Discharge profuse; urine, very opaque.

R Zinc sulphate et alum aa. gr. xij.

Sol. hydrarg. bichlor. (1-20,000) ad. ʒvi.

M. S. Inject four times a day.

October 17th. Discharge absent and urine clearing fast, but for the last 24 hours has had a severe pain in right knee which by measurement is one-half inch larger than the left. Synovial sac bulging, patella floating and joint very tender to the touch. At first he had pain in both knees and also in back (near sacrum), but this gradually disappeared.

The knee was painted with tr. iod. co., and tight bandage applied with instructions to rest from all movement.

October 20th. Knee only about $\frac{1}{8}$ inch larger than left and almost painless. For the past 10 or 12 hours has had severe pain in the flexors of the left thigh, the sartorius not included. There was no swelling and, while seated, no pain, but as soon as he tried to get up the pain was very acute, being lessened as he moved about, but not entirely absent. Temperature $99\frac{1}{2}$ and pressure over the involved area invoked only the slightest uneasiness for the patient. First urine very slightly opaque and containing 3 or 4 shreds. Second clear as far as eye could detect. As the family were rheumatic (patient never had an attack) the salicylates were ordered, at the same time advising that it was possibly a gonorrheal complication. The bladder was filled twice with zinc sol. similar to that used on the 13th, rest advised, but no splints or fixation ordered, as the joint complication had apparently disappeared.

October 24th. T. $99\frac{1}{3}$. Urine very opaque, only slight discharge. Under advice of a friend drank gin freely for two days, been resting all the time since the 20th. Pain in left leg (femoral region) present but to a much less degree than on the 20th, bladder injection as on the 13th.

October 28th. T. 99. No discharge, urine almost perfectly clean and pain except behind the knee (popliteal space) almost absent.

In bed for past four days. Bladder injection as on the 13th.

November 3d. Urine heavily charged with urea and uric acid and very opaque, due to pus. One glass of beer last night. Has pain in flexors behind only occasionally, but it is now quite marked along a line covering the sartorius. T. $98\frac{4}{5}$, bladder injection of silver nitrate gr. $\frac{2}{5}$ to aq. dis. oz. 12.

November 4th. No discharge. First urine magnifies print, but microscope shows a few pus-cells, second glass perfectly clean. T. $98\frac{3}{5}$, pain lessening rapidly, has not been in bed during the day since October 28th.

Some six weeks later the patient reports that the pain gradually disappeared until at the present time there is scarcely any. At no time was there any involvement of the eye.

From the above history there cannot be much hesitancy in assuming that the complication involved either the theca or muscles, but there being no positive way of telling, one must console himself by theorizing. Points in favor of the former (thecitis) are:

First. There was no appreciable swelling over the involved area, where, had the muscular tissue been inflamed, such would have been marked to a more or less degree.

Second. The origins or insertions of the flexor muscles (biceps, semitendinosus, semimembranosus, and sartorius) being intimately woven together and the fact that the tendon of the semimembranosus divides (at its insertion) into three parts, one of which covers the popliteal muscle, would readily explain the original pain in the back (sacral region), femoral region, popliteal region and lastly over the course of the sartorius. Furthermore, the course of the pain would suggest that the inflammation had extended by continuity along the muscle-sheaths.

Third. Had the muscles been involved (two of which are very large) there would surely have been marked swelling, especially over the biceps which is very superficial. On the contrary, there was neither swelling nor redness.

One author reports no fever in his case, the history of mine shows a slight raise in temperature for 14 days or more.

That the condition was metastatic was very evident, there being no doubt that the synovial membrane of the right knee was primarily involved, but to what extent the iodine and pressure influenced its movement I must leave for my readers to decide.

In the case (myositis) reported lately by Professor Echorst of Zurich (*Deutsche Medicinische Wochenschrift*) there was well-marked swelling over the affected area, measuring $3\frac{1}{4}$ inches long by $1\frac{1}{2}$ inches wide. This was months in disappearing. He observed no tempera-

ture. In conclusion he says: "In every case so far observed the femoral region was the location involved, that it is caused by gonococci and not streptococci." Councilman, in reporting a case, speaks particularly as do several French authors also, of the metastatic phenomena. In conclusion I must say that from the appearances observed in Professor Echorst's case and several others, I think I am safe in adhering to the diagnosis of thecitis.

288 Franklin street.

Correspondence.

GONOCOCCUS INOCULATION.

NEW YORK, December 3, 1899.

EDITOR, JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES:

In an article in the August issue of the Journal entitled "Acute Gonorrhea, Its Prevention and Cure," by Dr. Thomas G. Youmans, appeared the following statement: "If they (the gonococci) are still absent as a final test the patient is instructed to pass the morning urine in sterilized tubes. Either a culture of this urine is made or else the eye of a guinea-pig is inoculated with it. If there are gonococci in the urine they will make their presence known. If these tests show negative results and the seminal vesicles and prostate are normal the patient may be advised to marry with safety."

I have recently looked into the literature on the subject of gonorrhea with considerable care and I have failed to find any reliable experiments which support Dr. Youmans' statement in reference to the infection of the eyes of guinea-pigs with the gonococcus.

Many investigators, among them Neisser, Loeffler, Leistikow, F. Krause, and Heiman have experimented with the gonococcus in its relation to animals. Both those mentioned and others have reported negative results following the inoculation with the gonococcus of the eyes and other parts of dogs, rabbits, guinea-pigs, kittens, etc. Finger claims to have produced an acute inflammation of the knee-joint of a dog by injecting a pure culture of gonococci on chest serum agar. He, however, claimed no reaction in the rectum or urethra of the dog by injecting the gonococcus. Wertheim claims to have produced a slight peritonitis in guinea-pigs, rats, mice, and rabbits.

Turro also reports successful inoculations of the urethra of dogs with gonococci, but there is a question whether or not he used the diplococcus of gonorrhea. His experiments have not been confirmed by other reliable investigators.

The weight of evidence at present is against availability of animals in testing for the gonococcus in suspected material from the human body.

In a limited number of experiments with the gonococcus I have been unable to infect rabbits or guinea-pigs (the urethra) with the gonococcus. I believe, therefore, in the present state of our knowledge on the subject, a statement advising the inoculation of the suspected material into the eyes of guinea-pigs as a final test to prove the absence or presence of the gonococcus is misleading.

I do, however, agree most heartily with Dr. Youmans in the importance of making a culture of the suspected excretion in all cases where the microscope fails to settle the question. In patients about to marry the question is one of grave concern. The Gram decolorization stain should always be used in such cases and failure to find the gonococcus by this method makes imperative a culture of the suspected material or chest serum or ascetic fluid agar.

In addition Dr. Youmans has pointed out the importance of a careful examination of the prostate and seminal vesicles in all cases, and when diseased, a bacteriological examination of the excretion expressed from these organs. I believe the latter statement cannot be repeated too often, as the possibility of the gonococcus lying dormant for years in these organs is becoming more apparent every day.

Yours truly,

FOLLEN CABOT, JR.

128 E. 38th street.

Book Reviews.

Progressive Medicine. Vol. III. Edited by H. A. HARE, M.D. Philadelphia and New York: Lea Brothers & Co., 1899.

This issue in the Leas' notable enterprise is of direct interest to the Journal's readers since it contains Stelwagon's digest of dermatological matters. The only faults to be found with it may as well be stated first. They are the lack of full criticism by the writer of the work he thinks deserving of presentation and the place, too prominent perhaps, which he gives to American literature. Far be it from the reviewer to deny its value in general, but some of it is really not worth resetting. The critical estimate has been a marked feature and an altogether admirable one in preceding issues, and it seems a pity the compiler has not availed himself to a greater extent of his privilege. The lash well and justly laid on in certain quarters here and abroad would be a boon to us all. Stelwagon has not shirked his duty and has not run after strange gods in the matter of classification. His selection is good as regards diseased conditions considered, the style is clear and not verbose. Illustration, modesty forbids us to commend since most of it is from these pages. References are plentiful and placed as they should be, at the foot of the page.

The volume contains in addition, William Ewart's "Diseases of the Thorax and its Viscera," Spiller's "Diseases of the Nervous System," and Norris's "Obstetrics."

Physician's Visiting List. P. Blakiston's Son & Co. Philadelphia. 1900.

The list in its forty-ninth year shows all the excellences which have made its continuous existence possible for so long a time. The appearance and divisions are those of former years and doubtless familiar. The price is also the same, one dollar.

Die neue Geschichte der Medicin (the modern history of medicine). DR. O. V. BOLTENSTERN. (Leipsig, Naumann, 1899.)

The author treats the ancient history of medicine only superficially, giving his full attention to the development of medicine, beginning with the sixteenth century. He gives a succinct critical review of the advancement of medicine in every branch separately in each century. It is written in a very attractive form and lucid manner, giving to the physician who is interested in the medical science a brief and concise representation of the subject.

Society Transactions.

FRENCH ASSOCIATION OF GENITO-URINARY SURGERY.

4TH SESSION, OCTOBER, 1899 (*Annales d. mal. des organes genito-urin.*, p. 1184, 1899).

1ST SÉANCE. PROFESSOR GUYON, *President*.

Essential Hematuria.—DRS. MALHERBE and LEGUEU: Besides symptomatic hematuria due to a well-recognized cause, as cancer, tuberculosis, lithiasis, etc., essential hematuria, has been described apparently independent of a lesion of the urinary apparatus. To study this question, both clinical and anatomical examinations are necessary. We find in almost all of these cases positive lesions, but merely because they seem very slight or incapable of producing a hemorrhage the hematuria has been called "essential." Thus a calcareous incrustation of a pyramid in one case, in another very slight tuberculous lesions have been found. In the largest number of observations, chronic nephritis has been found. Renal sclerosis may be accompanied by a congestion excited by any cause which may be sufficiently intense to occasion a hematuria, friability of the blood-vessels perhaps facilitating the process. More frequently this nephritis is unilateral; the urinary secretion may be normal, the amount of albumin very slight, and thus clinically the signs of Bright's disease may be wanting. Renal sclerosis suffices to explain certain hemorrhages which we see persisting a long time after contusion of the kidneys. Movable kidney also explains some of these cases. The hematuria of pregnancy observed by Guyon is very curious. Are these, so to say, physiological hematurias, or may there not be some interstitial or parenchymatous nephritis?

All these cases, however, show a manifest lesion, in cases cited by Schade, Broca, Loumeau, etc., the kidney examined appeared sound and they were thought to be cases either of hemophilia or angioneurotic hematuria. Still we should be guarded. It is strange to see hemophilia with hemorrhage from kidney only. Angioneurosis, the nervous influences acting as the underlying cause of hematuria, is at first sight sufficiently plausible in these cases where, in absence of any lesion, there is coexistence of pain in the kidney or along the course of the ureter.

This hypothesis, though admitted by Legueu and Broca, is likely to give

way to the more legitimate explanation of the presence of a nephritis of very slight degree. There are only two cases in which the histological examination has not revealed it. Thus, apart from some facts of which the explanation is insufficient, we may say that in reality there is no such thing as "essential hematuria:" all cases of hematuria are symptomatic and arise from a general cause (toxic or infectious) or a renal affection.

Pseudo-essential hematuria may be at times so slight as not to constitute any danger, or so severe as to menace life.

There is no efficient medical treatment.

Surgical treatment may become necessary. In some cases nephrectomy, nephrotomy, nephropexy have been resorted to with success; but in other cases merely an exploratory lumbar incision has sufficed to cure a hematuria of long duration.

Nephrectomy is radical, and gives promise of cure, provided the other kidney is intact, but where this has not been the case, death has certainly been hastened. Even if the other kidney be proven intact, nephrectomy can only be indicated when it is shown that this is the only operation that will promise a cure. This is the case if there is a neoplasm, or a tuberculous process at its inception, but it is far otherwise in the case of a nephritis. On the contrary, nephrotomy has been followed by excellent results where nephritis was manifestly present. Anchoring of the kidney has sufficed, where a movable kidney has been present, to cause cessation of a hematuria. Hence in case of a rebellious hematuria, rebellious to ordinary means, an exploratory incision is in order. The kidney is exposed; its surface explored. If movable, it may be fixed in place, without opening, provided its surface appears healthy. Should the kidney be incised, a beginning, miliary tuberculosis should not be overlooked. If we find the kidney tuberculous, or a neoplasm present, removal of kidney is in order. Aside from this, nephrotomy is decidedly preferable. Secondary nephrectomy remains as a last resort.

Hematuria Accompanying Pregnancy.—PROFESSOR GUYON (for himself and in the name of DR. ALBARRAN) reports two additional cases of hematuria during pregnancy.

CASE I.—Occurred during second pregnancy in the seventh month; catheterization of the ureters showed that the blood came from the right kidney. Hematuria ceased before confinement and had not since reappeared, three months having elapsed since the cessation.

CASE II.—Was seen in sixth month of pregnancy; hematuria had then lasted four months. Cystoscopy showed that the hemorrhage was renal and there were dilated veins at the ureteral orifices. Hematuria ceased one month later; patient not seen since.

There are now some twelve cases on record, some are vesical and some renal hematuria. During pregnancy there is a congestion of the lower segment of the bladder and an alteration of the jet of urine from ureter into bladder. Thus there are two physiological causes which may lead to bleeding. But is this sufficient? Must we not have as well a pathological cause? In one of Guyon's cases there was increase in volume of the kidney, in another indications of cystitis. In other reported cases there seemed to be probability of some pathological process, from which facts the conclusion is reached that it is difficult to admit the existence of essential hematuria.

Essential Hematuria.—DR. TEDENAT: By essential hematuria we should understand only those cases which do not depend upon an alteration either in the kidney or in the blood. He had been able to find lesions of sclerosis in a series of cases which appeared to be simple hemorrhage without lesions. Latent nephritis may reveal itself only by the traces of albumin from various influences, exposure to cold, certain foods (asparagus), certain medicines (turpentine, santal, iodids). In these cases abundant renal hematuria may be repeated during a period of several years, which may be the sole symptomatology of a kidney lesion. In four cases under personal observation, two had nephralgia with abundant hematuria, resembling renal calculus. Two patients were cured by nephrotomy.

In another the ablation of a small hydatid cyst caused cessation of hematuria. In an old man with habitual hematuria for seven or eight months with tumor occupying the region of the kidney, the incision for nephrectomy was made and large cancer of the descending colon discovered pressing on the renal pedicle. Resection of colon resulted in cessation of hematuria during the seven months which patient survived.

Such facts tend to make us doubt the existence of essential hematuria.

The Influence of Renal Retention upon Nephrorrhagias.—DR. POUSSON reported histories of two such cases, adding on his part his belief in a distinct lesion as the cause of hematuria, if we will only take sufficient care in macroscopic and microscopic examination of our cases.

PROFESSOR ALBARRAN: Up to the end of 1897 essential hematuria of renal origin was admitted without discussion. Since then more careful observation of cases tends to overturn this view. He had, in 1898, shown that almost all the published cases could be grouped under one of three classes of cases of renal hematuria already known: (1) hematuria of movable kidney, (2) that due to hydronephrosis, (3) that due to certain chronic nephrites with concealed symptoms. Since this work, a large number of cases of hematuria due to undoubted nephritis have been published, of which he found seventeen cases, counting one whose history he gives, a patient 53 years old, for six years had had pain in right renal region. Repeated analysis showed 30 to 50 c.gm. of albumin to the litre; frequently the presence of red blood-cells, and once granula casts. Then appeared more pain, severe hematuria, lasting twenty-four hours. A nephrotomy was done, a large kidney found, which looked almost normal, a piece removed showed undoubted diffuse parenchymatous and interstitial nephritis. Patient recovered.

Since attention has been called to the lesions which may provoke hematuria not a new case of essential hematuria has been published.

Hematuria Called Essential but Due to Renal Lithiasis.—DR. AUG. BOURSIER called attention to the existence of hematuria due to lithiasis from uric acid or oxalates, without the existence of calculus.

Uric acid may by its presence alone cause hematuria by irritating the elements of the kidney, producing congestion (hematuria preceding an attack of gout, hematuria of gout, hematuria in children of the well-to-do, progeny of gouty parents).

Oxalate of lime, in its sharp crystal envelope forms, more frequently determines a hematuria.

Hematuria, premonitory of Certain Renal Affections.—DR. P. HAMONIC: In certain cases hematuria may manifest itself, sometimes a long time before the appearance of the first symptoms of renal affections. Out of a series of cases the author cites five.

CASE I.—In 1885 patient had hematuria, urinary examination and examination of urinary tract negative. Perfect health till 1890. At this time sudden attack of parenchymatous nephritis which has since pursued a benign course.

CASE II.—In 1889 a patient was the subject of attacks of hematuria. Urine showed oxalate of lime, then good health for three years. Then nephritic colic and anuria, necessitating nephrotomy, and a ramifying calculus was found and removed; recovery.

CASE III.—Patient had, in 1891, a series of attacks of hematuria without other manifestations. In 1896 sudden onset of symptoms calling for exploratory nephrotomy, miliary tuberculosis found, and kidney removed. Recovery. Since then patient has developed pulmonary tuberculosis.

CASE IV.—Spontaneous hematuria in 1896. No other sign of urinary disease. Health perfect for two years. In 1898 cancer of left kidney developed. Operation refused; death later from uremia.

CASE V.—At the end of '96 nephrotomy was done for rebellious hematuria in a patient. Kidney on section appeared sound. The wound was sutured; recovery rapid. Believes this case will later develop disease though at present patient is in good health.

DR. GALLAND-GLEIZ holds views of the preceding speakers, from his own personal experience and does not believe in hematuria *sine materia*.

Hematuria Due to Hemophilia.—DR. LEON IMBERT cited a case of a patient 33 years old, undoubted victim of hemophilia, subject since infancy to hemorrhages of every kind; frequent attacks of epistaxis, some hemoptyses, hematomata from slight and even from no apparent cause. Hereditary antecedents not hemophilic, but the parents were subjects of varices and hepatic affections. Patient subject to frequent joint affections. About the age of 23 attacks of hematuria began, and since then has had three or four attacks. Whether renal or vesical has never been ascertained with certainty, but evidently due to hemophilia.

Essential Renal Hematuria.—DR. LOUMEAU does not believe in the existence of a renal hematuria which is truly essential.

Renal Hematuria in Prostatics.—DR. ESCAT, in 1896, called attention to a form of renal hematuria in prostatics. Two cases were discovered by chance on autopsy to be of this character, showing how this condition may be overlooked in the presence of renal hematuria, an accident, important from the point of view of therapy as well as pathologically or clinically.

As to the mechanism we should consider—

1. The effect of prolonged distention in a urinary tract with sclerosed vessels.
2. Of rapid and complete evacuation of the bladder whether by catheter or by cystotomy (observation of Rochet).
3. Of infection, which may readily follow catheterization; this may increase the accidents of hemorrhage *ex vacuo*; hemorrhage of cystitis or pyelitis.

Hemorrhage, primary and aseptic, may become a hemorrhage which is secondary, *i. e.*, septic, more frequently impossible of exclusion.

The patient may succumb to the accident of hemorrhage, infection or of uremia. The kidneys (sometimes a single one) are crammed with miliary abscesses and filled with clots, in the parenchyma and in the reservoirs.

From the point of view of treatment, the participation of the kidneys may explain the failure of every remedial measure taken in some cases of the grave hematuria of prostatics. A catheter *à demeure* carefully adjusted, aspiration of clots and disinfection of the bladder arrests in the majority of cases the hematuria. Where failure occurs it is well to bear in mind the possibility of the presence of renal hematuria, cystotomy even may prove of no avail.

Essential Hematuria.—DR. CASTAN reported a case which he believed was typical of essential hematuria. This was the case of a woman who, at the menopause, had severe hematuria for several months. The most complete investigation failed to reveal the least trace of a nephritis, recovery was brought about by medical treatment, douches, massage, frequent purgation, sea-trip, etc.

The inoculation of a rabbit with the menstrual blood produced a renal hematuria. He claims also to have produced such a hematuria in a rabbit, without the slightest trace, microscopically, of nephritis by three injections of sulphate of aniline (0 gr., 25).

He believes that these facts uphold the theory which he maintains for metrorrhagias in virgins and of the menopause, that certain toxins retained in the organism by some mechanism, may produce hematuria without lesion, like the metrorrhagia. Some hematurias of pregnancy may be placed in the category, as at this time, in consequence of a diminution in all the functions of the organism and of the emunctories, the woman is in a state of permanent toxemia.

Hematuria Associated with Movable Kidney.—DR. M. D. PASTEAU reported the history of a case covering three years. A woman, 44 years old, who, since 1885, has had attacks of hepatic colic sometimes followed by icterus. In 1893 these pains changed their character and resembled renal colic. The right kidney, at a time when a crisis was not present, was found to be displaced downward, movable, regular in outline, not enlarged, and not tender to pressure. At the time of a crisis the kidney was found to be enlarged, and painful on pressure. Upon repose this enlargement disappeared, but at the same time a hematuria supervened, which at the first attack lasted one day, following attacks lasting several days. All these phenomena disappeared after nephropexy. There has been no hemorrhage since the operation.

The pathogenesis of hematuria admits of ready explanation in this case. It occurred immediately after cessation of the crisis and was due to intrarenal hemorrhage due to the congestion provoked by the retention.

A Case of Hematuria Originating from the Bulb, having Peculiar Characteristics. —DR. BARBELLION related a case of a prostatic who at 63 had been subjected to lithotomy by Professor Guyon with recovery. Several years after this he had cystitis. Once, while catheterizing himself, he urinated blood. His physician in view of previous history, hematuria and frequency thought of calculus and called in the speaker who, on attempting to catheterize, found a false route, and

withdrew the catheter filled with soft clots. He then passed a coudé catheter into the bladder and drew off a cloudy urine free from blood, showing the hemorrhage to be of urethral origin.

Hematuria in the Gouty.—DR. DESNOS said in a fair number of cases in gouty subjects the appearance of hematuria has been seen to alternate with, follow, or precede an attack of gout, whether articular or visceral. These are of two kinds, some being accompanied by pain, for the most part resembling nephritic colic, sometimes the hemorrhage is the only symptom. It is reasonable to refer this symptom to a renal congestion, similar to those which occur in other organs, the more so that examination of the patient in the interval will show no discoverable lesion in the urinary apparatus.

In five cases, however, the author was able to prove that congestion is not always the sole cause, though presenting symptoms outlined above. In two a calculus was found on nephrotomy; two others evacuated a calculus spontaneously after a nephritic crisis, hematuria ceasing immediately after the expulsion and not returning, hence we should be very reserved in diagnosis of cases of this character.

Abortive Treatment of Gonorrhea.—DR. MOTZ claims 23 successful cases out of 25, in which he was able to apply an abortive treatment. He began with irrigation of anterior urethra (segment by segment) with the permanganate solution 1-500. Twelve hours after this he again used 1-1000 in the anterior followed by 1-2000 in the posterior urethra. If discharge became thinner, twelve hours later he used 1-2000 on anterior and again at end of the next 12 hours, 1-2000 on both anterior and posterior urethra. If, however, there was no diminution of secretion he used 1-1000 in the third and fourth lavage. The failure in the two cases was due to impossibility of passing fluid into the posterior urethra.

DR. NOGUÉS was in accord with this method, but expressed the conviction that it was useless after the onset of acute symptoms.

DR. GUIARD still opposes the systematic employment of such strong solutions, the reaction which they cause should be avoided and believes that 1-5000 to 1-10,000 strength will serve the purpose and avoid reaction.

DR. NOGUÉS opposed the statement of Guiard, saying that he began with 1-400 to test the susceptibility of the patient, and later used 1-2000 to 1-500.

DR. KEERSMACHER uses lavage of large amount with catheter and syringe, but believes such treatment should be limited to the four days following coitus.

DR. GUIARD deprecated use of catheter, and prefers to wait for the earliest symptom.

Para-urethral Abscess Containing Gonococci without Urethral Gonorrhea.—DR. GENOUILLE reported a case where follicles at the side of the frenum discharged for six weeks without contaminating the urethra; these tracts were incised and the case recovered. (He fails to state whether the subject had ever had a urethral gonorrhea previously.)

Treatment of Chronic Gonorrhea.—DR. A. CASTAN gave his method, a procedure which contains nothing new.

Oxygenated Water and Picric Acid in the Urethritis.—DR. A. CASTAN finds these remedies of no avail in gonorrhea, but in urethritis due to, or containing other micro-organisms they are of distinct value. Picric acid being of value in the older forms. [Strength of solution not given.]

Remarkable Efficaciousness of High Dilatations in Difficult and Rebellious Strictures.—DR. GUIARD: [As these dilatations are carried up to 27 or 28 F., only the title is misleading to those who are in the habit of using from 26 to 30 in routine practice.] The author has found that the use of sounds of this caliber are of great value.

External Urethrotomy, Suture of Urethral Wall without Suture of Overlying Soft Part.—DRS. GENOUVILLE and ZADOK. The technique consists in suturing the urethra over a catheter left *à demeure* and tamponing the external wound with iodoform gauze. The authors report good results by this method.

Calculus of the Perineal Urethra with Prolongation into the Posterior Urethra.—DR. GENOUVILLE reported a case in which it was removed by external urethrotomy. The calculus was situated in the bulb, was 2.3 cm. long, thickness of a nut, having the form of a distaff.

Diverticular Calculi in the Female Urethra.—DR. PASTEAU calls attention to the existence of this condition, the calculi are in the urethral flow, giving rise to a tumor in the anterior vaginal wall. Mere removal is not sufficient. The diverticulum must be resected, followed by immediate suture in two separate planes.

Abscess of Prostate Containing Pneumococci.—DR. P. GUILLON reports an interesting case with the pneumococcus in pure culture.

Electromassage of the Prostate in Prostatitis and Prostatism.—DR. A. HOGGE considers this a valuable aid in these cases as an adjuvant therapeutic measure.

Latent Abscess of the Prostate.—DR. DESNOS describes two forms, one occurring with prostatic hypertrophy, of which he has observed two cases in which there appeared an encysted collection of pus giving rise to no fever and no symptoms pointing to abscess of this organ, but were discovered by rectal palpitation in the course of examination in which there occurred sudden retention which persisted until evacuation of pus and then ceased immediately after. The second form has been observed in the course of acute menstrual affections, especially gonorrhea—here arise the signs of prostatitis, particularly an increasing difficulty of urination and pain during entire flow of urine. Rectal examination does not reveal the presence of a collection of fluid and the signs of prostatitis may be very slight. Suddenly an abundant discharge of pus will occur from the urethra with cessation of dysuria. Rectal massage then always produces an abundance of pus. He has been able to locate with the urethroscope the

mouth of the abscess in the prostatic urethra. These abscesses drain badly and are one cause of the persistence of chronic urethrites.

Chronic Prostatitis.—DR. CASTAN reported two cases, one accompanying gonorrhea, a second in a young man 20 years old with chronic glandular prostatitis accompanied by marked neurasthenia. The prostatic urethra was narrow, there was a post-prostatic vesical pouch, and atony of the bladder, resembling the senile prostatism without evidence of sclerosis.

Phenomena of Prostatism in Chronic Prostatitis.—DR. JANET reported two cases, respectively 42 and 54 years old, who presented symptoms of prostatic hypertrophy, with enfeebled bladder, arising solely from chronic prostatitis.

Treatment of Chronic Prostatitis.—DR. JANET recognizes three classes of cases: (1) the non-infectious which may be treated by hydrotherapy or cauterization of the deep urethra, (2) those due to the gonococcus, (3) those due to other micro-organisms. These latter may be confined to a few prostatic glands or may affect the entire organ.

From a therapeutic standpoint he divides these cases into those which can be evacuated by massage, and those which cannot be evacuated. The first are readily amenable to treatment, the latter are rebellious. He finds faradization a help in these cases, this does not exclude, however, the other means, as instillations and other topical measures.

DR. HOGGE prefers galvanism in these cases.

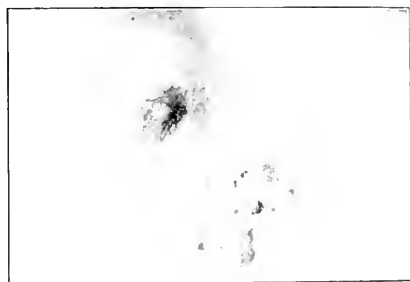
Urethral Lithotripsy Applied to the Treatment of the Prostatic Region.—DR. GUIARD: Previous treatment has always been removed by incision, perineal or hypogastric. In a single case he has obtained a good result by crushing and evacuation through the urethra and believes this can be applied in similar cases. An essential condition being that there is no obstruction in the urethral canal, that the calculus shall be so placed and of so small a size as to allow a lithotrite of small size to pass it, allow the opening of the jaws, the turning of the instrument, and that there is no prolongation back into the bladder. The calculus must then be capable of being grasped without including a fold of mucous membrane. After crushing neither lavage nor aspiration are likely to be of use. He seized the fragments one by one with a small No. 1 lithotrite with flat jaws, continuing until the pocket was empty. The minute particles he washes out, using a small double-eyed silk catheter, carried into the pocket, the catheter being of a size to allow the fluid to flow readily alongside. The patient was able to get up and out the following day.

NEW YORK DERMATOLOGICAL SOCIETY.

REGULAR MEETING, HELD ON TUESDAY, OCTOBER 24, 1899.

DR. JAMES C. JOHNSTON, *President*.**A Case of Lymphangioma.**—Presented by DR. GEO. T. JACKSON.

The patient was a man, 25 years old. He is sure that the lesions have been present for twenty-three years, perhaps all his life. Upon the left side of the chest below and to the inside of the nipple there is an area of about three inches which is sown over with single and grouped straw-colored vesicles, with here and



there a group of vesicles with reddish hue. The single vesicle and the single groups stand wide apart from each other so that there is no crowding of the vesicles as is sometimes seen in these cases. The patient states that the vesicles come and go, but the area never has increased in size, nor has it ever been free of lesions. He gives no history of the rupture of the vesicles and of a discharge from them upon the skin.

DR. A. R. ROBINSON said that, so far as his experience was concerned in the treating of these cases, he had no success. He had had three well-marked cases which he had treated by various methods without results. All these cases were examples where the disease continued to extend gradually at the periphery.

DR. KLORZ suggested as a possible effective treatment the application of very hot air or steam by means of some instrument by which this action can be limited in order to produce coagulation of the contents of the vesicles.

DR. G. T. ELLIOT fully agreed with the statement made by Dr. Robinson. In cases that he had treated, and in which he had destroyed the lesion, new vesicles appeared around the scars. He did not think any benefit was obtained from treating these cases. He instanced a case seen by him of lymphangioma circumscriptum in an attendant in a Turkish bath, which had existed during thirty years without change. He had received treatment for it, but absolutely without result.

DR. ALLEN asked Dr. Elliot if electrolysis had been used, and if so with what success.

DR. ELLIOT replied that electrolysis had been used in his cases, and also the

Paquelin cautery. Around the scars produced, however, new vesicles formed.

DR. J. A. FORDYCE thought the galvano-cautery might be used; it seemed to him as though it depended upon a localized condition.

DR. ELLIOT stated that all means of treatment had been tried and yet no result had been obtained, the vesicles appearing subsequently around the scar.

A Case of Epithelioma of the Lower Lip.—DR. C. W. ALLEN presented, for the second time, the patient who was seen at the last meeting. He wished the members to feel for the gland in the neck, noticed last month; he thought it had about disappeared. The firmness now felt in the lip was, he believed, a cicatricial firmness, and there was no evidence of recurrence. Since the last meeting nothing further had been done in the way of treatment.

A Case of Epithelioma of the Lip.—DR. C. W. ALLEN presented again the man of 24 years shown at the last meeting. An operation had been done on one side in removing tissue for macroscopic examination; the incision going far enough away and far enough down to get well beyond the diseased tissue. The part had been examined and pronounced to be epithelioma, and slides were presented for the members inspection. Since the operation cautery had been used upon the opposite side, which now presented a raw surface covered with a crust.

DR. FORDYCE said he had nothing more to say about the case than he said last month.

DR. GEO. T. JACKSON thought the case looked promising.

DR. ROBINSON thought the case looked promising and he thought that possibly a cure might be reached without deformity. He said he would be glad to see the case again two months later.

DR. ELLIOT thought as he did the last time he saw the case. The enlarged glands underneath the jaw were still there.

Regarding the second case presented by Dr. Allen he stated that if the man ever had epithelioma, in his opinion he still had it.

A Case for Diagnosis.—Presented by DR. G. T. ELLIOT.

The patient was a girl, about twenty years old, and was first seen yesterday. On one cheek she presents a lesion about the size of a 50-cent piece, with sharply defined but more or less irregular outline, and which, beginning as a small spot four years ago, had slowly enlarged to its present size.

The other lesion began two years later and is upon her lip, and appears as two separate patches or groups.

The rarity of the clinical appearances in the case caused it to be presented for diagnosis.

DR. H. G. KLOTZ said that several years ago he presented to the Society (211th meeting, *THE JOURNAL OF CUTANEOUS DISEASES*, X., p. 75) a similar case, occurring also on the face of a young woman in the shape of a smooth, circular patch of about the same size and consistency as in the present case, but slightly more elevated. It gradually disappeared under the application of a 10-per-cent salicylic acid soap plaster, without leaving a pronounced scar.

DR. ROBINSON said that so far as erythematosus lupus was concerned it seemed to him that they should feel like excluding that disease from the fact that there was not enough scar tissue found in the central portion. He thought that after four years there should be more of it present.

DR. SHERWELL thought at first glance that it resembled an erythematous lupus, but the relatively long history without scarring and scaling did away with this diagnosis. He would rather consider it a form of circumscribed scleroderma, or morphea, although atrophic changes were not markedly present.

DR. ELLIOT said that he was certain that in daylight the diagnosis would readily be made. Cases of the disease had been reported in which the color was black, green, blue, yellow, pink, and lilac, instead of the customary ivory. The clinical symptoms suggested at first angioma, but his diagnosis was morphea. On the patch on the cheek atrophy in the center could be seen. In morphea, the patches may be circular in shape, but they appear also in bands and in spots varying in size, sometimes surrounded by a violaceous border, but not always, and the reason the case was presented for diagnosis was because of the color, which was exceptional.

A Case of Extensive Hypertrichosis and Hairy Moles.—Presented by DR. S. SHERWELL.

The patient was a baby, 16 months old, of German parentage. The case was one of extensive hypertrichosis of the neck, the growth seemingly an extension of the scalp into the back between the scapula and many patches in various parts of the trunk and limbs. The speaker wished to know if anything could be done for the affection, he had simply brought the case as a curiosity, and to satisfy the parents.

DR. FORDYCE suggested that the name *nexus pilosus et pigmentosus* would be a better name to give this condition than hypertrichosis.

A Case of Keratosis Follicularis.—Presented by DR. FOX.

The patient was one that he first saw at the hospital yesterday. There appeared red patches upon the shoulders with dried epidermic masses projecting from the hair-follicles in limited circular spots. As keratosis of the follicles rarely appeared in groups he thought this case might be interesting. At first, there was a question as to whether it was primarily follicular on account of the redness of the patches.

DR. BRONSON said that it appeared to answer more nearly to the disease called by Crocker *lichen pilaris*.

DR. ELLIOT said that he would not make a diagnosis at the present time, yet it seemed to him that the trouble resembled more nearly the *acne keratosa* of the French than *lichen pilaris*. The crusts on the lesions were not horny plugs but certainly exudation crusts, and he could not reconcile the anatomical changes of *lichen pilaris* with those seen in this case. He would also call attention to the atrophy of the skin where clearing up had taken place in the center of the patch.

DR. C. W. ALLEN said he would call it *keratosis pilaris* or *keratosis follicularis*, but since White had appropriated the latter term for *psorospermosis* we were not so free to use it in the old sense. He had seen a similar condition in a young girl occupying a large portion of the upper arm which had cleared up after a time under mild mercurial ointment.

DR. ELLIOT thought the photographs shown by Dr. Fox were very beautiful, but in his opinion one was palmar eczema, and the other corresponded very closely to what has been termed *eczema follicularis*. They certainly did not resemble the case presented to-night.

DR. FORDYCE said there were no signs of congestion around the patches.

DR. BRONSON said the disease described by Crocker was a distinctly inflammatory one associated with keratosis. He thought that a similar condition might occur under varying circumstances, sometimes as a phase of eczema. He had sometimes seen it on the inside of the thighs.

DR. JOHNSTON said that in his opinion, in this case, as in many others among the keratoses, the keratosis was the primary lesion. This was well shown in the smaller spots on the shoulder where there was no exudation, no erythema or beginning stages of inflammation. In older spots evidence of inflammation is present; due, no doubt, to the irritation of the intrafollicular keratotic plug. Exudation rarely occurs in these cases and the speaker differed from Dr. Elliot in his idea that the caps on the follicles are crusts and not scales. The evolution of the disease is probably not unlike that of the pityriasis rubra pilaris of Devergie and then the keratosis is unquestionably primary. The slight atrophy present is readily explained by pressure of plugs as in the case of the scutula of favus.

A Case of Tuberculosis Verrucosa Cutis.—Presented by DR. H. H. WHITEHOUSE.

This was the third case of the affection the speaker had seen within a short period of time in shoemakers. When the patient first presented himself for treatment he said he had "shoemaker's disease" and that he knew other shoemakers who were suffering from the same trouble.

The patient, a German, 64 years old, has worked at his trade seventeen years. The disease began eight years ago and now presents a typical clinical picture of the affection. Both hands and wrists are involved in a fairly symmetrical manner except that the right forearm has an isolated patch on the flexor surface three inches from the joint. The center of both palms is free, but the disease involved both borders of the hand, the ulnar being the worst; both flexor and extensor surfaces of all the fingers are involved, the knuckles being the least affected. The disease extends but a short distance beyond the metacarpo-phalangeal joints on the backs of the hands. The original papillomatous condition has been largely removed by the application of a 20-per-cent salicylic acid plaster, and by the use of oleate of mercury, 10 per cent. in vaseline, about the finger-joints; he can now use them without pain; the improvement on the whole has been extremely satisfactory.

DR. SHERWELL said the case was an interesting one from an etiological point of view. Those who had to do with hides, as stevedores, hide-cutters, shoemakers, preservers of hides, etc., appeared most exposed to the affection, as he has before had occasion to state. This case appeared to be one of this kind.

DR. WINFIELD said he had seen two similar cases occurring in shoemakers.

DR. KLOTZ said that the patient, who was presented by Dr. Allen about a year since, had been treated by him several years ago. At that time he had been treated for syphilis with some benefit, but later on the disease was not affected any more by the treatment. Originally the patches were much larger and thicker but not so extended over the entire hand.

DR. DADE, speaking of the etiology, mentioned one case of his that occurred in a handler of hides, and another that occurred in a jockey. The latter patient had had the lesions excised several years ago, but the disease had now recurred in the scar. He had had the fluid that had exuded from the lesions examined

for tubercle bacilli but none had been found, and would be interested to know if Dr. Whitehouse had made similar investigations.

DR. KLOTZ said that he did not believe the danger of infection with tuberculosis was so, much in the making of new shoes, but in the repairing of old ones, which could very easily be the bearer of the virus in the shape of dried sputa, etc.; he thought that the infectious material originated rather from human beings than from the contact with animal products, as the hide, etc.

DR. JOHNSTON said that the most remarkable thing about the disease was its occasional spontaneous disappearance. He mentioned two cases where the disease had disappeared without treatment.

DR. WHITEHOUSE agreed with Dr. Sherwell regarding the matter of the disease being prone to attack those who handle hides; this fact was well recognized, as was also its occurrence in butchers. What the speaker would like explained, was the method of inoculation in these shoemakers, who handle the leather in its finished state.

A Case of Verrucous Lupus of the Hand.—Presented by DR. WINFIELD.

The patient was a male aged 68; who for twenty-five years had had a warty eruption on the back of the right hand. The lesion began as a small ulcer just at the root of the index-finger. The disease has gradually spread until now nearly the whole of the back of the hand and finger are the sites of scars and lupus tissue. It was not possible to obtain any history of infection.

DR. KLOTZ said there was no scar tissue present and he could not imagine such a condition as lupus existing for such a long period without leaving a scar; he therefore thought that it might rather be a case of lupus erythematosus.

A Case of Pityriasis Rosea.—Presented by DR. ALLEN.

The affection began upon the face less than one week ago, gradually extending down over the neck and trunk. There is a little more eruption to-day than yesterday. The chief point of interest in this case was that it began on the face, while the books state that the disease rarely extends to or occurs on the face.

The speaker wished to call attention to a diagnostic point in differentiating this disease from an early macular syphilide or other macular eruption. By painting over the area, where the lesions are scarcely perceptible as upon the lower abdomen in the case presented with Lugol solution the patches and rings will come out and appear of a mahogany color, as he has pointed out to be the case in the various trichophytions of the body and in pityriasis versicolor. The disease in this respect acts like other parasitic diseases. This reaction does not take place in the usual erythematous eruptions unless there is desquamation, but even here the stain does not take so deeply. There is now no scaling on the trunk in this patient but there will be later on. A number of men who had seen this case felt sure that the man had syphilis.

DR. SHERWELL had never considered the disease as a parasitic one, though he was in ignorance of its etiology. He knew, moreover, from personal experience that it recurred in the same individual under the same conditions. He had a patient in whom it had recurred three separate times at as many early lactation periods. In fact, in his experience he had had more patients of this character in females, though far from being confined to them. Had at present writing one such. He asked Dr. Allen if it itched.

DR. ALLEN responded that it did not.

DR. ELLIOT asked upon what basis Dr. Allen made it a parasitic disease. He was not aware that anybody so regarded it. Pityriasis rosea or maculata et carcinata, according to the American school, had certainly not been proved to be due to a microbic agent. Vidal had once found a germ, his "anomocon dispar," but never again, nor had any one else been able to rediscover it.

DR. BRONSON asked how long the condition had lasted.

DR. ALLEN responded that it had lasted but a few days.

DR. BRONSON did not think that it was a typical case of pityriasis rosea.

DR. ALLEN said that he had presented it as a typical case developing, as it did, upon the face and presenting, at the present time, clinical features not usually seen.

In regard to the test by iodine he simply meant that if applied during the first stages it was an aid in diagnosis. It was of special value to the general practitioner when he was apt to confuse these cases with roseola syphilitica. Some cases very closely resemble syphilis. This man's back, by daylight, looked like a developing roseola and not like typical pityriasis rosea. New lesions coming out, reacting as they do to the iodine test, suggested to his mind that the affection might after all belong to the parasitic disease, but he did not mean to claim the test as a proof of this.

Selections.

CUTANEOUS DISEASES AND SYPHILIS.

Lichen Scrofulosorum in a Negro.—T. CASPAR GILCHRIST (*Johns Hopkins Hosp. Bull.*, p. 84, 1899).

This case is of interest not only on account of its great rarity in this country, but also because it is the first recorded instance in the negro.

A girl of 11 years, without any personal or family history of tuberculosis, exhibited typical features of lichen scrofulosorum, as originally described by Hebra, with the exception of the color, which would naturally differ in a negro's skin. The eruption occurred not only in groups, but appeared also in irregular papules. There were no subjective symptoms. Under internal administration of hypophosphites and cod-liver oil the eruption rapidly disappeared. No tubercle bacilli were found in any of the sections stained for this purpose. Microscopically the sections presented two striking features. (1) Semiglobular-looking masses, situated in the horny layer, and especially around the hair follicles, and (2) marked pathological changes in the upper portion of the corium beneath these masses, and also about the hair-follicles, especially the deeper portion. The latter was characterized by its tubercular structure.

The Structure of Cornu Cutaneum.—A. V. MATANSON (*Vratch*, Vol. XX., p. 1253, 1899).

From the microscopical examination of one of his cases the author concludes that the cornu cutaneum is formed by hypertrophied papillæ, by the increase of the epithelial layers, and especially by the augmented formation of

the stratum corneum which (1) may surround the papillæ of the skin in form of a cap, (2) may follow alongside the lengthened papillæ in form of long, narrow strips of the corneous material, (3) keratin is deposited upon the raised cutis, as alongside the papillæ, or (4) in mass form.

On the Solution of Mercury in the Body.—ARTHUR SMITH CHITTENDEN
(*Johns Hopkins Hosp. Bull.*, Vol. X., p. 921, 1899).

Mercury used in inunctions or in inhalation may give rise to marked symptoms of mercurial poisoning. This fact involves a solution of the metal. The author endeavors to find where and how this solution takes place.

Inhalation and inunction experiments showed that insoluble mercury does not pass through the intact skin to be acted upon by the circulating fluids of the body, but does appear in soluble form in the blood and dejecta. What are the facts affecting solution? They may be found in two situations: in the secretions on the surface and in the menstruum of the ointment. In inhaling mercury, when it is precipitated on the respiratory epithelium, aside from the oxidation processes which might be brought about by the air in passing over these surfaces, we must suppose some supplementary oxidation as a result of the activities of the tissue juices. All experiments which bear on these conclusions are open to criticism, and the author presents a method which eliminates as far as possible the questionable details of experimentation. His method is as follows: He injected into the femoral artery of animals an emulsion containing approximately 0.25 g. of metallic mercury. 'The wound was closed by deep, subcutaneous sutures in order to avoid the possibility of hemorrhage. The urine and feces of the animals were collected for a period of six weeks after the injection, and analyzed for mercury by Winternitz's method. In the urine a large number of minute globules of mercury were found, but in the feces no mercury in form of visible globules could be revealed. The amount of soluble mercury in the feces was very minute as compared with that in the urine. The mercury present in the feces was not in the form of a sulphide. Just how the solution of mercury by the body juices is affected and what part is played by the albuminous constituents the author cannot say, but it seems to him true that a solution is effected and the mercury eliminated as an albuminate.

The Changes of the Teeth in Syphilitic Patients.—O. V. PETERSEN
(*Urch.*, Vol. XX., p. 897, 1899).

In a paper read before the Second Odontological Russian Congress, the author gives his conclusion, arrived at from examination of teeth in 500 patients suffering from syphilis in different stages (271) and free from syphilis (229). (1) The Hutchinson teeth are not characteristic of syphilis, as they are met with in men who did not have syphilis. (2) The changes in the teeth are produced by various chronic infectious diseases, and the character of the changes is a subject for future studies. (3) It is necessary to examine the teeth of persons suffering from affections of the central nervous system, be it of syphilitic or non-syphilitic origin.

The Elimination of Mercury by Sweat.—V. V. MIKONOWICZ (*Urch.*, Vol. XX., p. 1028, 1899).

The author arrived at the following conclusions from the study of elimination of mercury in 28 cases: (1) It is eliminated by sweat as well as by urine. When mercury is introduced in the system in quantity the elimination is increased; with cessation of the drug, elimination is diminished. (2) Mercury is eliminated by the skin in larger amounts than is supposed. The eliminated amount depends upon the amount of sweat. (3) During inunctions mercury is pressed in in the glandular ducts, whence it is removed by sweat. (4) By forced sweating the remaining Hg can be removed from the system.

A Popular Native Remedy against Warts.—(*Pratch*, p. 1170, 1899).

Herba thymi serpilli is put in hot water and placed in a hot, hermetically closed oven over night. In the morning the decoction is strained and the warts washed with the liquid. The liquid is left to dry. The application is repeated until the warts disappear. In one case both hands were covered with warts and the same disappeared after one week's application.

A Peculiar Form of Iodin Eruption upon the Skin and Mucous Membrane of the Stomach.—PROFESSOR NEUMANN (*Arch. f. Derm. and Syph.*, Vol. 48, p. 323, 1899).

Purpura of the Mucous Membrane of the Mouth Due to Iodid of Potash.
—G. MILIAN (*La Presse Méd.*, p. 193, 1899).

The case is interesting on account of severe intensity of the eruption upon the skin from iodine and of a similar eruption upon the mucous membrane of the stomach, demonstrated post-mortem. The patient was brought into the hospital with symptoms indicating a subacute Bright's disease and hemiplegia. After the administration for a short time of small doses (the amount not mentioned) of iodid of potash, a severe eruption developed upon the forehead, cheeks, nose, upper lip, chin. The eruption consisted of from pea to dollar-size elevated, bullous efflorescences with macerated white, grayish epidermis, the central portion occupied by soft, dark-brown elevations. The small, fresh efflorescence presented in the centre a pin-head size pustule. The eruption spread over the whole face, and under symptoms indicating a severe lung affection the patient died. The post-mortem examination revealed changes in the stomach which were histologically analogous with the skin changes. The whole pyloric region was transformed into an ulcer reaching to the muscular layer. The borders of the ulcer were occupied by bean-size, flat efflorescences with elevated epithelium. Outside of the stomach the autopsy revealed a subacute Bright's disease with hypertrophy of the heart and arteries, a double hemorrhage of the left cerebral hemisphere, and a uremic enteritis.

(2) A woman of 43 years, suffering with headaches and severe pains in the lower extremities, with manifest symptoms of alcoholism, was given 6 grams of iodid of potash daily. After six days she had a very marked burning sensation in the palate, which could be compared with the burning sensation from pepper, a rose-colored fluid exuded from the mouth, like the hemorrhagic phlegm seen in hysterical persons. Large, red ecchymoses, with bloody suffusions, appeared on the surface of the palate. The expectorated fluid did not show a tendency to coagulation. This symptom disappeared with the others when the

use of iodid of potassium was suppressed, but reappeared on the administration of the drug.

Acne Urticata.—GEORG LOEWENBACH (*Arch. f. Derm. and Syph.*, Vol. 49, 1899, p. 29).

The author took advantage of his opportunity of having under his care in Dr. Joseph's Poliklinik a patient affected with the foregoing disease, to give a very exhaustive and thorough study of this rare affection.

The patient, 35 years old, never suffered with any skin affection; when twenty-two years old he was operated upon for a large size tumor which interfered with his breathing. A year later he contracted scabies and since then he is suffering from his present complaint. The eruption began with a slightly reddened 3—5 mm. long undefined, slightly elevated, hard wheal. Before the appearance of the wheal, the patient felt an unbearable sensation of burning and itching on the site of the coming wheal. The sensation slightly diminished when the wheal appeared, but it was strong enough to cause him to scratch the surface, leaving marks. The wheals gradually increased peripherally in size till they reached 6—12 mm. in diameter. The central position turned in the meantime paler and began to flatten and a drop of serum appeared in the center. The serum with the decrease of itching sensation dried up in a crust, which shortly fell off, exposing to view a small scar; with time the scar deepened (concave) and turned shiny white. The whole cycle of the development of a wheal took between four and six days. The eruption was localized on hairy scalp, neck, forehead, both extensor surfaces of forearms, the extensor surface of the left arm, the right and left auxiliary, supra and infra clavicular regions and on the trunk along side of the spinal column, reaching down to the anal region, where it took in both inguinal surfaces and both knee fossae. In very new, undisturbed efflorescences a protruding fine hair could be seen in the central portion of the wheal. Clinically, the foregoing eruption presented some resemblance to acne varioliformis seu necrotica.

The clinical phenomena of the eruption are fully explained by the exhaustive microscopical researches. The red, elevated initial lesion appeared microscopically as an edema with a subepidermoidal formation of a vesicle. The concave, central pit with the oozing out serum corresponds with the disappearance of edema and the presence of microscopical necrosis. Thus the acne urticata presents in its beginning some features analogous with urticaria chronica perstans, and in its later development it comes near to acne necroticans.

GENITO-URINARY DISEASES.

Experimental Reproduction of the Soft Chancre in a Monkey.—CHARLES NICOLLE (*La Presse Méd.*, p. 265, 1899).

Experimental Reproduction of Soft Chancre in a Monkey.—L. BIZARD and A. SICARD, "Transactions Biological Society," Paris (*La Presse Méd.*, p. 131, No. 91, 1899).

The experiments were conducted on three monkeys belonging to different species, and in one species positive results were obtained. The chancreoid pus was taken from a typical ulceration of the vulva, the Ducrey bacillus being previously demonstrated in the ulceration. The first in which the inoculations were successful was a Semnopithecine monkey. Forty-eight hours after inoculation by means of scarifications two chancreoids appeared on the inoculated surface (forehead), quite identical in the histological and microbiological aspects with the hu-

man chancroid. In all, nine chancroids have been produced by inoculation, and in each of them the Ducrey bacillus was found: six out of the nine were due to experimental inoculations, four of them produced by successive inoculations. The remaining five were the product of auto-inoculation. The autopsy did not reveal anything particular. The lymphatic glands of the corresponding regions occupied by the chancroids were intact, their structure being absolutely normal on microscopical examination, no micro-organisms present. There were no buboes.

In the other two monkeys, belonging to an intermediate species, the results were not satisfactory. The material for inoculation was taken from the sores of the first monkey. They were, however, not absolutely refractory. In these two, a superficial ulceration was obtained, which had a tendency to rapid healing. Although the presence of the Ducrey bacillus could be easily demonstrated, not every inoculation was successful, while in the first monkey there was no spontaneous tendency to healing, and every inoculation took. The author failed to inoculate other animals, as hares, mice, guinea-pigs, even new-born guinea-pigs.

He ascribed the different results obtained by him to the fact that the monkeys experimented upon belonged to various species, and probably the negative results obtained by other experimenters are due to the same fact.

Bizard and Sicard report also a successive inoculation in a monkey, of a soft chancre, taken from a patient with ulcerations of the vulva, in which the presence of Ducrey bacillus was demonstrated. In their experiments the temperature of the inoculated animal varied from 38.1° to 38.5° C.

The Changes of the Mucous Membrane of Intestines and the Changes in the Kidneys after Transplantation of Ureter in the Intestines.—T. S. KALABIN (*Urch*, Vol. XX., p. 1258, 1899).

In studying the transplantation of the ureters in animals, the author transplanted one ureter into the intestines after laparotomy in four dogs. In two cases death followed two to three days after the operation, from peritonitis, in one case ten days after the operation, from hematuria, and in the last case the dog remained alive for a year, exhibiting no abnormal symptoms. After killing the dog, the author found that the kidney, the ureter of which was not touched, showed macroscopically no changes. No microscopical examination of this kidney was made. The second kidney, the ureter of which was attached to the intestine, revealed the following microscopical changes: The connective tissue among the tubules of the medulla presented a diffuse hypertrophy. The epithelium of Henle's loops was swollen and vacuolized; in some portions it underwent a caseous degeneration. The epithelium of the zig-zag tubules was swollen and showed albuminous granules. The endothelium of Bowman's capsules was also swollen. The capsule of the kidney was thickened and in some places attached to the cortical substance of the kidney. There the mass of kidney was concave, as in infarcts. The tubules showed dilatation and loss of epithelium. The cavities are sometimes empty, sometimes filled with a caseous homogeneous mass. The calices present changes of different degrees, exhibiting in the end a sharply defined round islet of swollen connective tissue. In such regions of the kidney we find foci of round-cell infiltration.

The intestinal opening of the attached ureter is passable. The ureter is normal, the mucous membrane of intestine below the place of attachment does not reveal either macroscopical or microscopical changes.

Therapeutic Reports

This department has been opened for a free discussion of the merits of preparations offered for the use of the profession.

IRREGULAR MENSTRUATION IN YOUNG WOMEN DUE TO ANEMIC CONDITIONS.

By H. EDWIN LEWIS, M.D.,
Burlington, Vt.;

Resident Physician Fanny Allen Hospital.

The following cases will substantiate the above:

CASE I.—Miss C. S. K. Seventeen years old. Decidedly anemic and much troubled with constipation. First menstruated at fourteen, since which time she has never been regular, flowing profusely sometimes twice a month, and other times going three or four months without menstruating at all. Has frequent fainting spells and a decided anemic heart murmur. At time of coming under observation had not menstruated for two months and ten days.

Treatment consisted of a regulated diet, tablets of aloin, strychnin, belladonna and cascara sagrada, one each evening until bowels were regular, and teaspoonful doses of Pepto-Mangan (Gude) after meals. Gradually the fainting spells and heart symptoms disappeared, and on the fifteenth day after commencing treatment she began to menstruate, the flow being natural in quantity and continuing four days. Treatment was continued and twenty-nine days later she menstruated again, continuing this time five days. Soon after this the Pepto-Mangan was stopped. From now on, up to the present time, a period covering three months, her menses have appeared regularly every twenty-eight days.

Her whole appearance has changed and in every respect she appears well and strong. Periods of administration of Pepto-Mangan, fifty-five days.

CASE II.—Miss K. M. Aged twenty. Menstruated first at age of fifteen and was fairly regular for three years, but since an attack of typhoid fever, two years ago, has never known when she was going to be unwell. Patient was not thin, but face was pale and yellowish, hands and feet were cold "all the time," and her whole condition was one of "blood poverty." Complained of frequent attacks of diarrhea following constipation.

Treatment consisted of plenty of outdoor exercise, good food with abundance of milk, and Pepto-Mangan (Gude) in teaspoonful doses after meals.

Her restoration to health has been rapid and satisfactory. She has menstruated three times since beginning treatment, the longest interval being thirty-one days. Says she is all right, and her appearance certainly sustains her words.

In this case the administration of Pepto-Mangan covered a period of thirty-six days.—M. J. Breitenback Company, 50-58 Warren Street, Borough of Manhattan, New York City, N. Y.

CHRONIC CYSTITIS.

The *Bulletin* was instrumental in calling my attention to the combination of drugs known as lithiated hydrangea, and a case of chronic cystitis has yielded so happily to its administration, that its report may be of interest.

Patient a married lady, aged 30 years,

suffering from calculi, much reduced in flesh, of nervous temperament, and desponding, hypochondriacal disposition. I had used at different times the simple fluid extract hydrangea, uva urci, buchu, flaxseed tea, and elm water, as well as washing out the bladder with a solution of nitrate of silver, etc., without success. I then commenced the use of lithiated hydrangea (Lambert) in teaspoonful doses four times a day, and after three days increased to tablespoonful doses. At the end of the first week I could see no marked change, but persisted in its administration. On the morning of the eleventh day of treatment the patient was reported much worse, and my visit found her suffering intensely and continuously passing water, in small quantities, containing clots of blood. I injected four ounces flaxseed tea and laudanum into the bladder, which partially relieved the pain and tenesmus, and enabled the passage of a large quantity of water, containing three ounces, by weight, of what I supposed to be phosphate of lime. I then added fifty per cent. of the fluid extract of buchu to the lithiated hydrangea for several days, during which time she continued to pass the brick-dust deposit, which was followed by a gradual improvement in her general condition. I used no other treatment except hot hop poultices over the pubis. She now has no trouble whatever in passing her water and no pain or soreness over the region of the bladder. I must ascribe the ultimate benefit to the lithiated hydrangea on account of its removal of the cause of irritation,—*i.e.*, the dissolution of the calculi.—P. McADAM, M.D., Rosedale, Ohio.—*In Medical Bulletin.*

A NEW PORTABLE ELECTRIC OUTFIT.

By GUSTAVUS M. BLECH, A.B., M.D.
Chicago.

Electricity as a therapeutic agent, while quite popular with a few specialists and wealthy practitioners, is employed by the majority of general practitioners with no scientific precision, because of lack of suitable apparatus. The results are poor, for to obtain good results good apparatus is necessary. It is therefore for this reason that electricity is derided by many as a valueless agent, while in reality it is a very valuable means of curing a large number of nervous and muscular affections. The idea prevails among many practitioners that electricity can be administered scientifically only by means of large, stationary and expensive "machines." The price and

impossibility of moving the batteries from the office to the bedside of the patient have proven objectionable features, preventing the general introduction and practice of electrotherapeutics. It is, perhaps, of interest to know that the most renowned specialists in Europe, for example Dr. Erb, who has become famous through his lectures and writings on electrotherapy, use, in their private practice, small portable batteries. Of course the term "small portable" is not to be confounded with the so-called family batteries, for self-treatment, which, as a rule, are not worth the material used on them. The erroneous idea that large liquid cells yield more electromotive force and amperage than small, dry cells has prejudiced the profession against anything but stationary cells. We know to-day that the size of the cell has nothing to do with its electro-motive force and that a small dry cell about as large as a vaginal speculum will do more for a longer period of time than, for example, a Laclede salammoniac cell. The cost of renewing a dry cell is not larger than the refilling and keeping in good order of large acid cells.

Knowing these facts, and to overcome the objections mentioned, with the co-operation of the manager of the Electro-Medical Mfg. Co., I have devised a combination battery which, while cheap, admits of the scientific administration of galvanism, faradism, the practise of electrolysis, and the illumination of small lamps for diagnostic purpose.

The battery has twenty-four cells, connected to the galvanic circle, yielding 33 volts. The faradic current produced in the coil is even and smooth, but can also be regulated with Lindstrom's rheotome to from 100 to about 4000 interruptions per minute. There is a selecting switch for primary and secondary currents. By means of a switch connection is made with a strongly built milliamperemeter for the measuring of the galvanic current. Four extra large cells are connected to a German silver wire rheostat for the purpose of running a small incandescent lamp (25 hours) for the illumination of cavities—throat, vagina, rectum, etc.

The battery can be used for electrolytic work, such as the removal of superfluous hair, warts, moles, etc., and has for that purpose an electric needle and holder, epilation forceps and magnifying glass. To the battery are added several sponge and metal electrodes, one roller electrode, one metallic brush and one interrupting handle, all of which are fastened between strong clamps to the inner side of the cover.—(*Jour. Amer. Med. Assn.*, Feb. 25, 1899.)

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Original Communications.

THE ROLE OF THE PUS-ORGANISMS IN THE PRODUCTION OF SKIN DISEASES.¹

GEORGE T. ELLIOT, M.D.,

Professor of Dermatology, Cornell University Medical College.

MR. PRESIDENT AND GENTLEMEN :

After having partially looked over the field, which the subject chosen for discussion necessitated, I regretted having accepted the honor offered me to present the question before this association. I found the subject to be so enormous, its literature so uncertain in bringing forward decisive proofs for beliefs and statements, so often vague and contradictory, that I felt that the work should have been entrusted to a trained bacteriologist rather than to me; should have been undertaken by one who could critically winnow the chaff from the grain, and could perhaps present to you in a much more definite manner his gleanings from the work, which so far has been done. However, having accepted the honor, I must now ask your indulgence for all that may be wanting in my paper, and I would state that I do not pretend to have gone over the entire literature of the subject, but I have only made use of those most important publications which would throw some light upon the question.

¹ Read before the Am. Dermat. Assoc. at Philadelphia, June, 1900.

When the fact was first demonstrated that suppuration was intimately connected with and was the result of the presence of certain micro-organisms obtaining a foothold or lodgement in the tissues, it was expected and hoped by dermatologists that an explanation had been found for all purulent lesions occurring on the skin, that is, these latter were only an evidence of a local inoculation with these pus-germs. However these expectations may have been, yet they could only be expectations and suppositions until definite proof could be obtained, which established unquestionably the connection between the pustular lesion of the skin and the one or other germ found associated with it to the exclusion of all other agents, which could also be productive of suppuration. For, although micro-organisms of one kind or another incontestably cause the production of pus, yet it has been found that pus originates when no micro-organisms are present, and, furthermore, pus also occurs from agents other than micro-organisms or their products. This has been the result of all investigation, experimentation, etc., bearing on the subject, and in the course of these a further fact soon became also apparent, *viz.*, that a distinction had to be made between pus and pus, between true pus and pseudo-pus. When the opinions of Thoma,¹ Williams,² Hueppe,³ Unna⁴ and others are taken and a definition is based upon them, I would state that true pus is an exudate rich in leucocytes, and containing in its fluid portion notable quantities of peptone. The cause of the leucocytic emigration is the bacterioprotein elaborated by the germs, which, paralyzing the white blood-cells, prevents their return to the blood-vessels, and they thus become pus-corpuscles. The bacterioprotein also prevents coagulation of the exudate and causes liquefaction of the tissues. Pseudo-pus, on the other hand, is not a leucocytic exudate, but is due to the proliferation of the fixed cells, and it has not the peptonizing qualities of true pus. Thoma has emphasized and demonstrated this difference in his work dealing with suppuration produced by the irritant effects of chemicals. It may also be added that in certain bacterial diseases intense leucocytosis may occur and yet no pus result. This is the case in anthrax, in the exudate of which there is no peptone. Unna claims that the discharge in Malleus does not respond to the tests for true pus, but is a granulomatous new formation and suggests the same source for syphilis, tuberculosis, etc.. He claims, also, that the discharge from ulcers and granulating surfaces is not true pus, but a physiological process, unless secondarily infected with pyogenic germs.

In view of these various opinions, it can therefore be said that an exudate clinically purulent may or may not be true pus. What appears

to be such may be true leucocytic pus, may be leucocytic and yet not true pus, or may be the result of fixed cell proliferation, so that the determination which it is has to depend upon other—chemical, etc.—tests, before positive statements can be made.

The causes of suppuration, so far as known, are microbic, chemical, and of unknown origin.

The chemical include turpentine, AgNO_3 , Croton oil, HgCl_2 , calomel, concentrated ammonia, iodine, bromine, chlorine, cadaverin, etc.

The microbic are the staphylococcus pyogenes aureus, albus and citreus, the staphylococcus cereus, the micrococcus tenuis, lanceolatus, tetragonus, the streptococcus pyogenes, the bacillus proteus, fetidus, pyocyaneus, pneumoniae (Friedlander), the diplococcus intracellularis meningitidis, the gonococcus, the bacillus of the bubonic plague, the bacillus anthracis, diphtheriae, tuberculosis, of typhoid fever, malleus, the virus of soft chancre, the bacterium coli communis, the fungus actinomyces, blastomycetes, and the hyphomycetes. All of these have been accused in various instances of producing cutaneous suppuration, but the most common of all, however, are the staphylococcus pyogenes aureus and albus and the streptococcus pyogenes. It should, however, be remembered that these pyogenic germs do not always produce pus and nothing else. They have been also known to cause forms of necrosis, false membranes, gangrene and grave non-purulent affections. Jordan and Felsenthal have, for instance, reported severe erysipelas without suppuration caused by the staphylococcus aureus.

The products of these bacteria have also been accused of producing suppuration. It has been claimed that filtrates of sterilized pure cultures of the pyogenic staphylococci cause suppuration in the lower animals, but others (Buchner) have asserted that the filtrates were without effect, while the dead bacteria on the filtrate were capable of producing pus. Wickham and Hallopeau,⁵ however, claim that the toxin of the bacillus tuberculosis produces experimental suppuration without the aid of the bacillus itself.

Besides the bacterial toxins, other substances are also made responsible in causing pus, such as absorption of excreta, of gall, etc., or of glucose, but the latter, according to Charrin, does not, perhaps, cause pus, but increases the activity of the bacteria already present.

The conditions under which suppuration depends, according to Wickham, Torok,⁶ Williams, Unna, Leloir,⁷ etc., are both general and local, as well as such as pertain to the bacteria themselves.

Of prime importance are the number of infecting germs obtaining entrance; the point of entrance, the condition and the resisting power

of the tissues; the soil in general; the degree of virulence of the bacteria themselves; or their increased virulence, due to particularly favoring conditions acting on successive generations of the micro-organisms. Unknown agencies also exert an influence. Suppuration is claimed by Leloir to occur especially after infectious diseases and to be then due to elimination of toxins produced by pyogenic organisms. Also in connection with dilatation of the stomach, renal diseases, and after ingestion of certain medicaments. The tubercular diathesis is commonly allowed. Thoma and Török claim man is particularly prone to suppuration, and as favoring factors they give exhaustion, hunger, pregnancy, the diabetic, arthritic and dyspeptic states, anemia, etc., to which Williams adds chronic diseases in general and alcoholism. That is, all conditions, diseases, or states which lower nutrition or the vital forces predispose or favor suppuration. Local factors acting in the same way, are injuries, slight or otherwise, which allow entrance of the bacteria to the tissues; necrosis, hyperemia, edema, anemia, seborrhea, want of cleanliness and hygiene, confinement in close quarters, etc. Unna particularly blames the follicular orifices as points of ingress, and regards them as especially adapted for germinating purposes, owing to the moisture, warmth, etc. which they furnish.

Besides inoculation from without, infection from within may also take place, that is, there may be metastatic cutaneous inoculation. Török states that it doubtless occurs through the blood and is embolic in nature. The bacteria may enter the vascular channels through the lungs or intestines; in the latter case, perhaps, accompanied by toxins. In a similar way various suppurative lesions of the skin occurring in connection with septicemic processes, with deep-seated phlegmons and furuncles and purulent affections of the internal viscera, are also explained, the pyogenic bacteria having been carried through the blood to the skin.

The mode of inoculation from without is ascribed to scratching with the nails, etc. Török; by direct contact with suppurative lesions, abscesses, boils, impetigo, etc., clinical examples of which have been reported by Leloir as taking place among nurses and others in the pursuit of their duties. Also as occurring between man and wife. It is likewise ascribed to mediate contact, and cases have been traced to the use of a child's infected pillow (Barents), to infected clothing, linen, toilet articles, etc. (Leloir), barbers' shaving apparatus (Brooke*), to flies, leeches, dogs and other domestic animals. Auto-inoculation also is a factor, the germs being conveyed from some primitive suppurating focus, wounds, sinuses, lesions of mucous membranes,

etc., to other parts of the body. Under these circumstances the same lesions are not, however, always produced, but most heterogeneous ones, boils, impetigo, sycosis, etc. It may be proper to bring in here among the modes of infection the rôle of the staphylococcus existing as a saprophyte. Bockhardt⁹ cultivated them from the healthy skin three times out of eight: from under the nails in six cases, and from the nasal mucosa in a large number of cases affected with sycosis of the upper lip. Payne¹⁰ states that staphylococci abound as saprophytes in dandruff, in the interdigital spaces, under the nails, in the anal and perineal regions. Williams adds to these the buccal and pharyngeal mucosa, and the alimentary canal. In the air and dust they have been found. Williams states that the streptococcus is found as saprophytic on mucous surfaces in health. Galletto claims from his experiments that the staphylococcus remains as a saprophyte in the site of former lesions. The theory is that the bacteria exist in a non-active state almost everywhere and become active and produce their effects when the resistive power of the skin is diminished by some means or other, or they are able to obtain an entrance into the tissues. In this way, it is sought to explain many suppurative conditions obscure in origin, and the frequency of staphylococcic disease is also ascribed to the frequency of existence of the germ as a saprophyte on the skin.

I would beg now to call your attention to the more clinical side of the subject, to bring forward those cutaneous affections recognized as being essentially suppurative and to state the bacteriological facts, which have been found in connection with them. I do not intend to discuss the accurateness of the claims made by one observer or another, however, but to deal with the investigations alone.

The acute abscess, cutaneous or subcutaneous, is the lesion from which Ogston, Passet, Rosenbach, and others originally demonstrated the causal connection between the pyogenic micro-organisms and the production of pus, and experimental inoculation has demonstrated conclusively that the staphylococcus pyogenes aureus and albus and the streptococcus pyogenes alone, or in combination with the former, were the active producers of these lesions. Though inoculations have not been carried out in regard to "multiple abscess formation in children," still by analogy with the acute abscesses just referred to, they may also be regarded as undoubtedly due to the pyogenic germs. Renault¹² cultivated the staphylococcus aureus and albus from fifty successive cases. Escherich¹³ obtained the same result in fifteen cases, and it is worth while to remark that these cases were of multiple abscesses developing in the first few months of life, with little or no inflammatory

reaction, and resembling clinically the cold abscesses as they occur in adults. These cases have often been attributed to syphilis or tuberculosis, yet he could not cultivate any tubercle bacilli from the pus, though pulmonary tuberculosis was present in a number of the patients. No pyogenic germs were obtained by Escherich from the blood, but Hulot records a case in which the staphylococci were cultivated from it. On the other hand, Zuber and Netter have reported cases of multiple abscess in children from the pus of which they cultivated the pneumonia coccus. It is possible that micro-organisms other than the special pyogenic ones may also cause abscess formation, as Schenck¹⁴ has reported a case of a man in which the abscess was probably due to a parasite belonging among the sporotrichæ.

The investigations of Passett¹⁵ especially may be said to have conclusively dealt with the origin of phlegmon. It is ascribed to the streptococcus pyogenes alone or associated with the staphylococcus aureus and albus. Garre,¹⁶ for instance, found the latter in ten out of fourteen cases, the streptococcus alone in the other four.

Whitlow, also known as panaritium, tourniole, etc., has been also ascribed to the pyogenic staphylococci. Garré found the staphylococci aureus and albus in thirty-one cases, and attempted inoculation experiments on himself. It was not, however, wholly successful, only a subepithelial collection of pus being the result. Unna claims that both the staphylococcus and the streptococcus are concerned in panaritium. Vogt¹⁷ has described a whitlow peculiar to fishermen and fish-canners, and associated with pustular eczema and furuncles. The staphylococcus aureus and albus were the especial germs found, but the bacillus prodigiosus and its congeners were also present. Bois di Sevrin¹⁸ also described a special felon in sardine-canners, in which a peculiar coccobacillus was found, both in the whitlows and in the sardines.

Unna regards carbuncle as probably the result of infection by a streptococcus of a peculiar sort, and states that the causative agent is unknown. Garré, however, rubbed a culture of staphylococcus aureus in his forearm. The next day a crop of large size pustules had formed, each being perforated by a hair. The infection progressed and in four days he had a huge carbuncle discharging from twenty circular openings, from which necrotic cores and shreds of cellular tissue came away. The carbuncle was surrounded at its periphery by isolated furuncles. Garré ascribed the lesion to the staphylococcus pyogenes aureus.

The staphylococcus pyogenes aureus and albus have been found by all investigators of furuncles, and experimentally the latter have

been produced. Bidder found the organisms in one hundred consecutive cases. Garré in nineteen cases, and he produced the lesion by inoculation. Bockhardt¹⁹ rubbed in the tenth generation of a culture of *staphylococcus pyogenes aureus* and produced large furuncles, from the pus of which *staphylococcus aureus* was cultivated.

Bockhardt rubbed into the skin pure cultures of *staphylococcus aureus* and *albus* of the sixth generation and produced typical impetigo pustules, and from them cultivated both forms of bacteria. Garré found the same. Unna,²⁰ who has made many varieties of impetigo, claims special organisms for most of them. For impetigo vulgaris he claims a coccus which forms an ochre-yellow culture, differing from the golden color of *staphylococcus aureus*, to which the disease is ascribed by Bockhardt and others. He also admits there is a white variety of his coccus. For his impetigo *carcinata*, Unna claims a round coccus resembling his *morococcus*. He also ascribes another form to a streptococcus, and still another to a germ allied to the staphylococci. None of these are based on inoculation experiments. Balzer and Griffon²⁰ insist that a large proportion of pyodermites are due to streptococci, the staphylococci being a secondary infection, and they claim to have found the former in thirty-one cases of impetigo.

Sabouraud,²¹ on the other hand, states that the *staphylococcus aureus* is the essential cause of impetigo, whether it is Bockhardt's, Fox's or Unna's.

Impetigo contagiosa is recognized by White²² as due to staphylococci; also by Wickham.²³ Crocker²⁵ obtained the *staphylococcus pyogenes aureus* in pure culture from unruptured lesions, and regards the disease as due to the *staphylococcus aureus* and *albus*. It is allowed to be inoculable.

Pogge²⁶ investigated bacteriologically the Wiltow epidemic of vaccination impetigo and found in the pus a micrococcus, which gave cultures of a pale brown color. Pus from the lesions was readily inoculable.

According to Payne²⁷ the impetigo described by Armstrong as football impetigo and investigated by Galloway, is the same as Fox's impetigo, and is a staphylococcia.

Pemphigus contagiosus tropicus of Manson is said to be contagious, inoculable and auto-inoculable. According to Crocker it closely resembles the bullous type of impetigo contagiosa, and according to Corlett is a staphylococcia.

Wickham states that staphylococci are always present in ecthyma, but inoculations are negative. Thibierge and Besançon ascribe the

lesion to a streptococcus. Balzer and Griffon also found a streptococcus in fourteen cases. Unna contradicts Wickham, and states that ecthyma is inoculable, if ecthyma pus is used, but cannot be produced by staphylococci cultures. He argues that the lesion is therefore due to a specific germ, and he claims to have found an unnamed coccus.

Folliculitis of the lanugo hairs is ascribed by Unna, Leloir, Wickham and others to the staphylococcus, and Wickham states that it can be produced by inoculation and auto-inoculation. The ordinary sycosis is likewise considered as a staphylococcic infection, Bockhardt having shown its identity in source with impetigo due to the staphylococcus aureus and albus. Unna and Wickham regard the cause of the disease as these pus organisms. No experimental inoculations have, however, been made.

Tommasoli has described a folliculitis bacillogenes, which resembled an ordinary sycosis, but in which he found a bacillus evidently pyogenic and closely resembling the bacillus fetidus of Passet. Inoculation experiments proved successful.

The lesions of hydradenitis suppurativa are claimed by Wickham to contain the staphylococci, but that inoculation experiments result negatively. Unna, on the other hand, contradicts him flatly, and states that no germ life has been found in the disease. However, he thinks it is probably an infective process, but due to a special undiscovered micro-organism.

Aene vulgaris pustulosa occupies a most peculiar position. Barthelémy and other French writers have ascribed it to the staphylococcus aureus and albus. Unna rejects the ordinary pyogenic cocci and accuses a microbacillus as the cause. Boeck likewise found a special and different organism. Wickham and Darier do not think that staphylococci are always in play in inflamed acne, they having failed to find them in nineteen out of twenty cases. Lowery³¹ has sought to harmonize these views, and attempts to show that in the disease there is a quasi-special coccus, which, when its virulence is raised by cultivation, turns out to be the staphylococcus albus. After repeated cultures a golden color is obtained, and the germ corresponds to staphylococcus aureus. Unna's bacillus he regards as an attenuated form of bacillus coli communis, and finally he concludes that after all the staphylococcus albus plays a minor rôle, and that the efficient cause in the disease is something in the soil. Inoculation experiments have not been successful.

For acne varioliformis, Unna claims a mixed infection—a diplococcus and a diplobacillus not unlike his acne bacillus. Staphylococci

have also been found, but no unity of opinion exists in regard to the cause of the lesion.

Perrin³² has described, under the name of pyodermite sudoralis, an affection occurring in summer in Marseilles, and characterized by miliaria and sudamina, folliculitis, furunculosis and abscesses, developing especially in children of 3 months to 7 years of age, and also in others. He ascribes it to the sudoral flux, due to high temperature, these conditions arousing saprophytic staphylococci in the skin to activity. He found the staphylococcus aureus in pus from unopened abscesses.

Reid³³ has described, under the name of "Barcoo rot," an endemic contagious and inoculable affection of Australia, in which he found a coccus corresponding to the staphylococcus aureus, except that it was motile. He concludes that the affection is a form of staphylococchia, however, owing to its association with other lesions—impetigo, furuncles, etc.—due to the staphylococcus aureus.

In the cases which have been described as periumbilical pemphigus neonat., occurring on the third or fourth day after birth, Trautenroth³⁴ and Ahlfeld³⁵ have found the staphylococcus aureus and regard it as the sole exciting cause. There might also be included here a case of Holt's³⁶ of pemphigus neonat. complicated with purulent ophthalmia. Pus from the eye yielded staphylococcus aureus, and these were found in pure culture in the bullæ. General staphylococchia followed and death. Juliusberg,³⁷ Unna and Meyer have reported cases of pustulosis staphylogenes and varioliformis also, in which the staphylococcus aureus was present in the pustules. Unna's case went on to general staphylococchia. Winternitz³⁸ has found staphylococcus aureus and albus in the blood in cases of Ritter's disease, but none in the tissues.

Under the designation of hyphomycetous pyodermitis there come those cutaneous diseases in which the trycophyta are the active cause. Rosenbach³⁹ found seven groups of tinea causing deep suppuration. One variety tinea holosericum album was inoculated successfully. The other six obtained from various purulent and non-purulent lesions have not been successfully inoculated. Sabouraud ascribes high pyogenic powers to a form of tinea obtained from the horse and claims that it produces agminate and circinate perifolliculitis, kerion and parasitic sycosis.

Malcolm Morris⁴⁰ and Pringle⁴¹ have reported instances of Leloir's perifolliculite agminée from which the trycophyton was cultivated, as also has Hartzell.⁴² Jadassohn⁴³ found the trycophyton in the pus of cases diagnosed as impetigo contagiosa and he furthermore accuses the deep trycophyton fungus as the cause of kerion on the scalp, sycosis

of the beard, and of Leloir's perifolliculite agminée on the body. As far as this latter disease is concerned, I may add that Leloir thought he had found a special germ, others have found staphylococcus aureus, while Quinquaud and Pallier have made it a tuberculide or an actual tubercular infection plus the staphylococcus aureus.

Wells⁴⁴ regards the staphylococcus aureus as the pus exciter in blastomycetic dermatitis, but he does not demonstrate that the blastomyces were not pyogenic. Gilchrist* regards the blastomyces as the cause of the suppuration in his two cases.

Besides these diseases in which pus is an essential factor, there are a large number of cases of maladies due primarily to other agencies than the pyogenic organism, and in which pus is a secondary factor. I may give as examples, scabies, pustular eczema, pustular syphilis, suppuration in lupus, etc.. No particular facts bearing on this point, however, are obtainable from literature, which demonstrate that the pus existing is the result of a secondary infection with pyogenic germs, and is not due to the disease itself, or is not, in some cases, pseudopus. Wickham and Darier could not find any pus-germs in pustular syphilis. Leloir cultivated the staphylococcus aureus from similar cases. Hallopeau ascribes suppuration in lupus to the toxin of the tubercle bacillus, others to the staphylococcus aureus. Unna claims suppuration in lupus is not typical, and the lupus tissue is immune to staphylococcic infection. The subject is too inchoate for any views to be expressed in regard to it.

The origin of cutaneous suppuration through metastases from within is also of interest. Finger⁴⁵ found staphylococcus aureus in examples of erythema multiforme et bullosum and of purpura complicating pyemic processes. Leloir claimed that acute furunculosis developed after phlegmonous angina, influenza, etc., and regarded the lesions as of metastatic origin. Finger examined a pyemic newborn child, who, besides visceral lesions, had an universal furunculosis associated with large and small abscesses. The staphylococcus aureus was found in all the lesions, as well as in the blood. To these and similar cases, there may be added a case of Lang's of suppurative dermatitis of the hand in a patient suffering from urethro-cystitis of gonorrheal origin. The gonococci were found in the pus and cultivated from it.

Metastases from suppurative lesions on the skin to internal organs and resulting in more or less general staphylococcia may also be adduced in evidence of the fact, that the pyogenic germs are concerned in

* Original statement corrected owing to Dr. Gilchrist's personal statement that he was wrongly quoted.

the production of the cutaneous processes from which they were derived. Riedel⁴⁶ reports a furuncle followed by acute osteomyelitis and intramuscular abscesses, and also several cases of cerebral abscess after carbuncle. Guth⁴⁷ reports a case of orbital suppuration, suppurative meningitis, general sepsis and death from an hordeolum. The staphylococcus aureus was found present. Gangitano⁴⁸ records an instance of general staphylococcemia in a woman due to a furuncle near the mouth. Verneuil, Brossart, Ledru, Ricard have all reported cases of deep-seated and remote abscesses from furuncles and carbuncles, in which the viscera and joints likewise became involved. Bousquet⁴⁹ reports a case of a man with furuncles on his right forearm, who developed deep phlegmon of the loins. The staphylococcus aureus was cultivated from both the pus and the blood. He also records an instance of a deep phlegmon secondary to furuncles of the neck, from the pus and blood of which he likewise obtained the staphylococcus aureus. His conclusions are that there can be no doubt but that the staphylococcus aureus, after producing a local lesion, may pass into the circulation and determine a general staphylococcia.

Hallopeau,⁵⁰ under the name of acrodermatite suppurative continuée, has reported three cases of a pustular disease, in which Darier and Jeanselme found the staphylococcus albus in two and the aureus in one case.

Hartzell⁵¹ claims that the staphylococcus aureus can be cultivated from the pus of the lesions of impetigo herpetiformis, but the pus contains no specific germs. Unna asserts that cocci—isolated and grouped—are to be found between the leucocytes. All other investigations have been negative.

Suppuration has also been ascribed to the bacillus pyocyaneus. Hitschman and Kreibich⁵² cultivated the bacillus from the pustules in their two cases. Ehlers and Neuman and Oettinger did the same. Karlinsky, the staphylococcus aureus in addition to the bacillus pyocyaneus. The cases described seem to be the same as varicella gangrenosa and ecthyma terebrant. Triboulet⁵³ reports a case of sudden death in a child who had pustular lesions, impetigo, and ecthyma. The bacillus pyocyaneus was found in the ulcerations, the blood, and the viscera.

In regard to ecthyma terebrant, with which these cases have been identified, it may be added that Boudouin and Wickham⁵⁴ found in their cases the streptococcus pyogenes.

Finally, a group of dermatoses associated very usually with suppurative features may be referred to, though not for the reason that any definite facts can be brought forward in regard to them. Their bac-

teriological position is practically unestablished, the cause of the supuration resting upon a hypothesis more than upon any definite fact or facts. They are ascribed to the toxin of tuberculosis, especially since injections of tuberculin have been seen to be followed by pustular eruptions, and also since Wickham and Hallopeau have claimed that the tubercle bacilli toxin produces supuration. Among these diseases I would mention the tuberculides acneiform, etc. (Hallopeau), folliculitis disseminata (Thibierge), folliculitis destruens, hydrosadenitis suppurative disseminée of Dubreuil and hydradenitis destruens suppurativa of Politzer, folliculitis (Barthelemy), acne serophulosa, acne cachecticorum, small and large pustular serophuloderma (Duhring), acne varioliformis, etc.: certain cases of sycosis which react to tuberculin (Fabry), impetigo varioliformis (Jamieson), etc. Impetigo herpetiformis is also included here by Tommasoli, owing to the fact that visceral tuberculosis may coexist.

In addition to these, there are a number of isolated cases of pustular dermatitis, variously designated, and which are ascribed to toxins unspecified. The data is too insufficient to necessitate a résumé.

From this brief review of the question, and it is brief of necessity, owing to the enormous literature existing, it cannot but be evident that though micro-organisms, especially the staphylococci and the streptococci, are recognized as being the particular cause of supuration, yet many other factors of internal and external source are also allowed to be active in producing that same objective result, to which the name of pus is given, but which may or may not be true pus, according to its source and constituents. That is, clinically pus may appear to be present, but yet clinically it is not possible to determine whether it is true or pseudo-pus. It can also be seen that as far as cutaneous processes are concerned, the causal connection between the suppurative lesion and the pyogenic organisms is, with few exceptions, more the result of an *a priori* and an analogical reasoning than of actual demonstration; is more the outcome of the fact that their presence can produce pus, than that they did so in those lesions in which they were found. In the large proportion of cutaneous diseases essentially suppurative or secondarily becoming such, no constant pyogenic germ organisms have been found by various investigators, but most contradictory results are recorded, and inoculation experiments have not been made or have been negative, or have failed, or at any rate have not produced the lesion from which the bacteria were obtained. In consequence, when the field is gone over, which I have, I grant, covered only in a restricted manner, but yet sufficient to bring out the chaos that exists, there is only one positive fact which I would em-

phasize, viz., the pyogenic micro-organisms, the staphylococci and the streptococci, are in general the cause of suppuration, but yet they are not the only cause. Their connection with the production of cutaneous lesions, with the exception of abscess, phlegmon, whitlow, carbuncle, furuncle, and sycosis, rests so far upon a too slender basis for any absolute conclusions to be drawn. Unity of observation, unity in regard to the bacteria, and, above all, unity in experimental inoculation and production of the lesion, all are required before a positive verdict can be given, that such or such a suppurative process is the result of such and such pyogenic germs, and that it is due to nothing else. When that is done, and it has not yet been done, then we may regard the subject as settled, but until then we are not in a position which cannot be assailed from any and every quarter.

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SOME NOTES ON PROSTATITIS AND SEMINAL VESICULITIS.¹

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AS was stated at the reading of this paper the views herein contained are the result of the combined experience of Dr. E. L. Keyes and the writer—his associate.

Some of the conclusions put forth, indeed, originated with Dr. Keyes, and it would be perhaps more simple and equally to the point to state that the responsibility for the opinions maintained is shared mutually.

Acute follicular prostatitis in mild form is a common complication of acute urethritis when it has invaded the deep urethra.

Acute parenchymatous prostatitis is a higher grade of this malady, extending into the parenchyma of the gland and may or may not result in prostatic abscess and periprostatitis.

The treatment of acute follicular prostatitis is that of posterior urethritis, and the treatment of parenchymatous prostatitis requires at first antiphlogistic measures, and when suppuration occurs surgical interference. It is not intended to enter into consideration of either of these subjects, one of which is too lengthy and the other quite generally understood, being based upon general surgical principles.

Chronic Prostatitis.—This malady is usually a direct propagation by continuity of chronic posterior urethritis and it may yield symptoms of so little note as sometimes to be entirely overlooked and disregarded, consisting only of a little sticky discharge which usually glues together the meatus in the morning, while at other times a discharge is more copious and annoying.

Prostatorrhœa is a disorder which resembles chronic prostatitis in that it is a mild and chronic condition accompanied by few or no symptoms other than a small amount of urethral discharge appearing at varying intervals. The discharge in prostatorrhœa is not mucopurulent, but simply an excess of the normal prostatic secretion; and the malady has not necessarily any venereal origin. These two troubles are often confounded and the terms used interchangeably.

¹ Paper read before the Genito-Urinary Section of the Academy of Medicine, November 14, 1899.

Sturgis, in a paper read before this section, has directed attention to the confusion that exists in the printed descriptions of the two maladies, and has clearly accentuated the points of difference. Chronic prostatitis then is a latent inflammation, a remnant of pre-existent acute trouble; whereas prostaticorrhea, a more rare disorder, consists in a leakage of the prostatic secretion due to the relaxation of the mouths of the prostatic ducts, and may be caused by masturbation, excessive sexual indulgence, etc. Both of these maladies are liable to be attended by various reflex nervous phenomena, psychical disturbances, and sexual debility and neurasthenia. The significance of the discharge is over-estimated by the patient, who often, particularly in prostaticorrhea, imagines that the flow is a seminal loss, and he, therefore, aggravates all his symptoms by mental introspection. Instead of this mild type of chronic prostatitis, which approaches so nearly to prostaticorrhea, there is another type in which the suppuration in the prostatic sinus is very profuse, the dilated sinus containing not drops of pus, but drams, as may be demonstrated by washing out the pouch. One or more of the follicles of the prostate may be distended with pus, which exudes from their dilated mouths into the prostatic sinus. There may exist an interstitial prostatic pus cavity, the remnant of an old prostatic abscess, which has not contracted down. Examination per rectum in chronic parenchymatous prostatitis will detect prostatic enlargement, generally unsymmetrical, sometimes nodular, and pressure upon the gland will express a quantity of its fluid contents, which will consist of pus cells and prostatic secretion, differing from that which is obtained by pressure in a case of prostaticorrhea, which consists of prostatic secretion pure and simple, and is devoid of the products of inflammation.

There is an interstitial form of chronic prostatitis involving cellular infiltration of the gland and the obliteration of its glandular elements by the formation of new fibrous tissue. Such a condition may lead to atrophy, contraction and diminution in the size of the organ. There is no distinct line of demarkation between the follicular, the parenchymatous, and the interstitial forms of prostatitis, any one of which may occur alone. They are liable to co-exist and the classification is more or less arbitrary.

Symptoms: Chronic prostatitis often exists without any symptoms of sufficient moment to attract the attention of the patient, and this may be true of active as well as of light cases. A chronic follicular prostatitis involving the ejaculatory ducts and the prostatic sinus may be attended by pain during the sexual act and a certain amount of purulent discharge. A much higher grade of trouble, involving even interstitial changes and parenchymatous inflammation, may exist with-

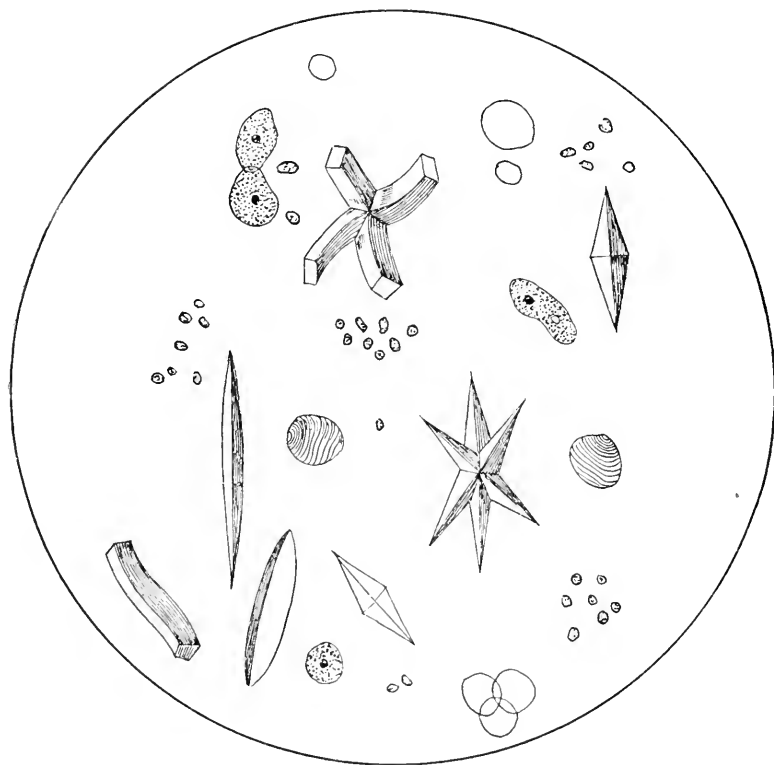
out a corresponding increase in the intensity of the symptoms. Heat and bearing down in the perineum or rectum are sometimes complained of. Neuralgic pains radiating down the legs and toward the fundus of the bladder sometimes are the chief annoyance. Reflex nervous symptoms and mental depression are often present, but belong equally to the clinical history of all chronic disturbances of the genital apparatus, and, therefore, are not pathognomonic. Functional impotence occurs or premature ejaculation due to hyperesthesia of the ejaculatory ducts. Sterility is possible from azoospermia, caused by obstruction of the seminal ducts or by inflammatory cohesion.

Prostatorrhea, or excessive flow of the prostatic secretion, may be present, due to dilatation of the excretory ducts of the prostate, in which case, however, inflammatory products are found mingled with the prostatic discharge. This discharge, as in prostatorrhea simplex, may be increased by movements of the body and by defecation. True spermatorrhea, as shown by the presence of spermatozoa in the discharge, the result of inflammatorycatarrhal dilatation of the seminal ducts, often complicates chronic prostatitis. The prostate is always sensitive when examined per rectum, a feature more or less marked in different individuals. The nature of the discharge obtained by pressure upon the prostate varies, being sometimes a free gush of normal prostatic secretion with the admixture of a small amount of purulent matter, at others a large quantity of pus combined with only a few of the elements of the normal prostatic fluid, demonstrating that while these two conditions of prostatorrhea and prostatitis may be differentiated theoretically, yet clinically they are less easily separated and are liable to co-exist. Strictly speaking, prostatorrhea is a symptom, not a disease—a symptom which generally enters the clinical history of prostatitis more or less.

Diagnosis: A strict diagnosis of chronic prostatitis depends upon the character of the prostatic secretion squeezed out by digital pressure per rectum. The subjective symptoms are not to be relied upon. Microscopical examination of the discharge is important to differentiate prostatitis, prostatorrhea simplex, spermatorrhea, urethritis, and urethrorrhea. In making such investigation it is important to examine first the discharge, if any, which may be lying in the anterior urethra; and next, that which is found in the urine after the anterior urethra has been washed or after the first flow of urine; and finally, that which is found in the last urine after the prostate shall have been manipulated through the rectum. The physical character of the urethral discharge is known to vary in the different conditions named. A purulent discharge signifies an inflammation in the anterior or posterior portion of the canal.

Prostatorrhea simplex, as already stated, yields an excess of prostatic secretion, which escapes from the urethra spontaneously and during muscular effort. Such a discharge is neutral or mildly acid in reaction. It has the seminal odor. It is white in appearance and is smooth and slippery. A microscopical examination reveals amyloid, hyaline and lecithin bodies, epithelium and Boettcher's crystals, the latter being only seen in secretions from the prostate and are produced by the addi-

FIG. 1.



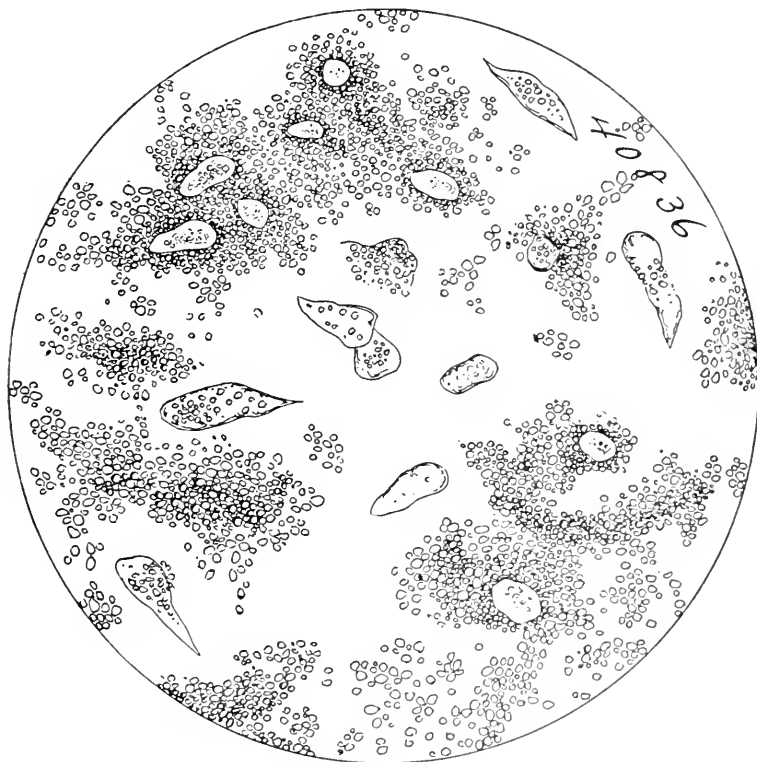
tion of a one per cent. solution of phosphate of ammonia (Fig. 1). This secretion, as will be seen, possesses none of the elements of inflammation. Their presence here would indicate the co-existence of prostatitis, from which, theoretically at least, prostatorrhea simplex must be clearly distinguished.

Urethrorrhea ex-libidine consists of a hypersecretion from the glands of the urethra. The discharge is thin and watery, sticky and tenacious, and the patient may notice that upon placing his finger over

the meatus the discharge may be drawn out for some little distance, resembling in this particular a bit of gum or sap. It has no seminal odor and it consists microscopically of a collection of flat, epithelial cells and some free mucous, but none of the elements which are found in the secretion of a prostaticorrhea. This discharge is also, in an uncomplicated case, entirely free from the elements of inflammation.

Spermatorrhea produces a discharge which is gelatinous in charac-

FIG. 2.



ter, mildly alkaline in reaction, and possesses the seminal odor. Microscopically we find the unmistakable evidence of the character of this discharge in the presence of spermatozoa. We have also the elements of the prostatic secretion, and in inflammatory conditions we find the elements of inflammation; but the presence of spermatozoa in a secretion from the urethra at any time except following an emission is the one sign necessary to determine the existence of spermatorrhea, which

condition may exist as a result of an atonic state with dilatation of the seminal ducts, or as a symptom of prostatitis or vesiculitis. The discharge of prostatitis may be scanty or abundant. It oozes spontaneously from the urethra, but in order to establish its origin it is better first to wash out the urethra with warm saline or boric acid solution and then obtain the discharge for examination from the first flow of urine, or to examine that which is expressed from the gland by pressure through the rectum. The gross appearance of this discharge is more or less purulent, differing from that of prostatorrhea and urethrorrhea, which do not possess this characteristic. It has nothing whatever in its gross appearance to distinguish it from an inflammatory discharge of other portions of the canal, and it is, therefore, important that it be obtained for examination after the anterior urethra shall have been cleansed. It is a difficult matter to determine from a microscopical examination the locality from which the epithelium in a given specimen is derived. The exudation from a chronic prostatitis will present a microscopical picture containing granular phosphates, leucocytes and epithelia (Fig 2), and in addition any of the elements of the normal prostatic secretion, as seen in prostatorrhea, may be found.

The gross appearance of the urine in chronic prostatitis may show only the presence of urethral filaments or of a small or large quantity of free pus. In locating the origin of urethral filaments or of the free pus, it is proper to take the precaution of first cleansing the anterior canal and then obtaining the urine in two separate flows. The first flow will then wash out the contents of the prostatic canal, which may be a quantity of free pus or one or two shreds or lumps, and the latter will present different appearances as they happen to be more or less granular or gelatinous.

The examination per rectum will distinguish any alteration in the size and sensibility of the prostate and also any implication of the seminal vesicals, which, if distended by catarrhal secretion, may be felt beyond the prostate on either side of the base of the bladder, varying in size from a peanut to that of a small egg. Cystitis of the neck of the bladder is identified by the more marked frequency and pain of urination, notably at and after the expulsion of the last portion of the urine, and often by the existence of a greater amount of pus in the last than in the first urine that flows away. Cystitis often co-exists with chronic prostatitis.

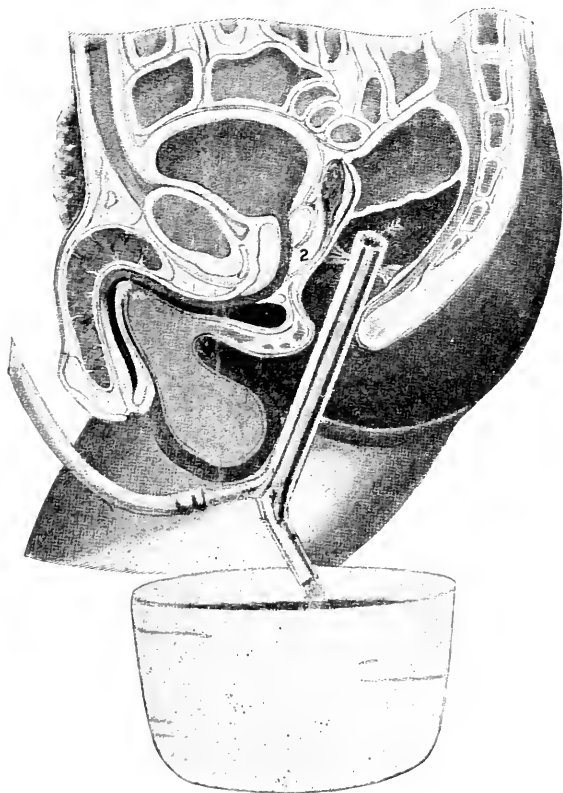
Treatment: In the adoption of local treatment for chronic prostatitis, by way of the urethra, certain measures have been recommended which, in our opinion, are a source of irritation rather than means of relief. Such are the unnecessary passage of bougies and other instru-

ments intended to over-dilate the canal, and the use of medicated bougies. Some cases of chronic prostatitis require about the same treatment and management as that recommended for chronic urethritis, mild irrigations of permanganate of potassium, about 1 in 4 to 6000 (and when well tolerated even stronger), the latter 1 in 1200 to 16. Instillations are also found useful in chronic prostatitis. Nitrate of silver heads the list. It should be tested gently, for it may disagree. It is used in a solution of from gr. ss. to gr. x. to the ounce, and sometimes stronger, and probably more often than the other preparations because it is quite generally effective, often brilliantly so. A few drops only of the strong solutions are needed, the quantity being reduced as the strength of the solution is increased. Instillations of sulphate of thallin will be found to suit some of these cases. The use of the endoscope in the posterior urethra is to be discouraged. It is, however, advocated by some, who claim better results by this means than by other methods. The Grunfeld endoscope is advocated for the purpose of making direct application of the caustic agent, nitrate of silver or chloride of zinc, to the *veru montanum*. It is not clear why such active cauterization of the *peri montanum* should be better than gentler astringent applications to the entire prostatic sinus, more particularly if the parenchyma of the prostate be involved as well as the surface of the mucous membrane.

To reach deep-seated, chronic inflammations, alterations of the prostate, such measures as will act directly upon the circulation of the organ may be instituted. One of these is massage of the prostate, accomplished by the finger introduced into the rectum. General lateral pressure may thus be made upon the prostatic tissues, while at the same time the secretion in the swollen and turgid follicles is forced out. This, both to the patient and the surgeon, disagreeable manipulation, is sometimes quite useful in very chronic cases. Some massage operators understand and practise it. But better than this last procedure, we consider the application of moist heat to the region of the prostate by rectal irrigation. It is a fact that the rectum will tolerate a very high degree of emperature when employed in this manner, and sometimes by this means strikingly beneficial results are obtained in old chronic cases of prostatitis, which have long resisted the continued efforts directed toward the urethral surface of the gland. The accompanying cut (Fig. 3) illustrates the method of employing the hot water rectal douche by means of a tube especially devised for this purpose (Fig. 4)—a modification of Tuttle's or Kemp's rectal tube. The hot water from a fountain syringe passes into one arm of the tube and enters the rectum through very small apertures on its circumference near the distal

end. A large opening at the extremity connects with an interior tube as large as the caliber of the outer one will allow. Through this the immediate return of the hot water from the rectum takes places and thus a continuous circulation of moist heat around the prostate is kept up so long as the operation is continued, which is generally from ten to fifteen minutes. The end of the tube needs a little manipulation to insure a continuous outflow of the injected fluid. Instead of the sitting

FIG. 3.



posture which is assumed in the accompanying figure, the knee-chest position may be substituted and often with better results. This operation should be conducted every night for an extended period, according to the effect produced. Improvement is often noted almost immediately and sometimes it is surprising to discover that in the absence of any other local treatment the character of the urine, which had been thick and turgid with pus, clears up promptly. Most cases, however, are less brilliant, and it is sometimes necessary to urge the continued use of this

rectal tube for a long period before permanent results are obtained; but when improvement has taken place under its use, permanent relief may be counted upon if the douche be used persistently. The general condition of the patient should receive attention, and any disturbances of nutrition properly treated. Iron, arsenic and hypophosphites have their indications as tonics, and cod-liver oil seems to possess especial value as in most other debilitated conditions. Prostatitis may be tubercular in character, or occur in individuals who have the tubercular diathesis. Indeed, posterior urethritis is not infrequently the exciting cause of local tuberculous deposit. Such cases naturally do not do well under instillations, irrigations, or the rectal douche; thallin sometimes comforts them and the hot rectal douche does the same, but radical treatment means a transportation to a favorable climate, plus the

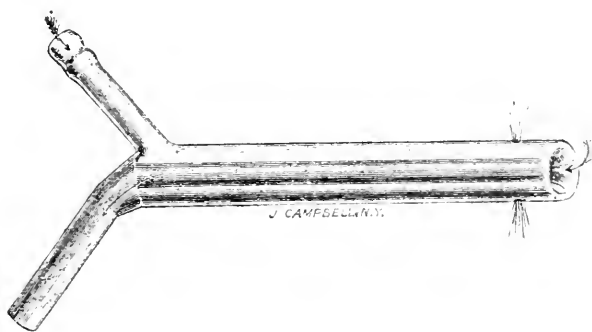


FIG. 4.

usual internal constitutional remedies directed against tubercle wherever situated.

INFLAMMATION OF THE SEMINAL VESICLES.

Inflammation of these organs, or spermatoecystitis, occurs as a gonorrheal complication following severe or prolonged suppuration in the posterior portion of the urethra. It frequently co-exists with inflammation of the prostate and often with acute epididymitis, but in such cases it is a side issue and may be disregarded until the epididymitis shall have disappeared. Any inflammatory condition existing in the prostatic sinus may extend by continuity into the vesicular reservoirs, but gonorrheal posterior urethritis is more liable to take this course than other inflammations.

The symptoms of acute seminal vesiculitis resemble those of acute posterior urethritis and prostatitis; sometimes there is more fever;

rectal tenesmus, painful erections, and sometimes spermatozoa in the urethral discharge and purulent or bloody seminal emissions. This latter is by no means a constant symptom. Examination per rectum will detect an enlarged and tender, sometimes fluctuating mass, in the region of the vesicles, extending from the limit of the prostate upward along the base of the bladder on one or both sides. When vesiculitis co-exists with prostatitis, the swelling and infiltration will be found to destroy the line of separation between these organs.

Chronic Seminal Vesiculitis.—This is usually a natural sequence of the acute trouble, or may come on insidiously as a complication of the chronic gonorrheal urethritis which has invaded the posterior urethra and thence extended itself to the prostate and vesicles. It is often due to excessive sexual indulgence, even without an antecedent gonorrhea, or to the abuse of alcohol or to the employment of harsh local treatment in the posterior urethra during a congested or inflammatory state. It is probable that tubercular and rheumatic subjects are more prone to chronic vesiculitis, as they are generally more likely to be the victims of prolonged and intractable attacks of posterior urethritis. The symptoms of chronic vesiculitis resemble those of chronic prostatitis, and vary greatly in severity. Sometimes there is no symptom other than a chronic urethral discharge which has resisted all the various local and general therapeutic attacks. In addition, there may be noted frequent nocturnal pollutions, bloody or purulent in character. Alterations in the sexual capacity and appetite may also be a feature. Neurasthenic symptoms, as in prostatitis, are commonly present, and indefinite and intermittent pains radiating through the perineum down the thigh, and into the hypogastric and lumbar region may also be complained of.

Treatment: The treatment of seminal vesiculitis resembles that adopted for acute and chronic prostatitis. During acute inflammation rest and freedom from all sexual excitement are imperative, and anti-phlogistic measures suitable in the endeavor to avert suppuration. A bland diet, alkaline diluents and mild laxatives, together with hot sitz baths, or hot applications to the perineum are all in order. If an abscess forms in spite of these measures, its contents are to be evacuated by a rectal incision as soon as fluctuation can be distinctly made out. Massage and rectal douches are not only improper in the acute stage, but are liable to cause irritation and do harm. When the abscess has discharged itself spontaneously, or by an incision, and the acute symptoms have subsided, treatment becomes the same as that employed in the chronic condition.

In chronic inflammation of the seminal vesicles, infiltration and vascular engorgement of these pouches exist with sometimes narrowing

occlusion of the ejaculatory ducts, but usually catarrhal dilatation. The aim of treatment is to facilitate drainage of the distended catarrhal pouches and by improving the circulation to overcome the catarrh. For this purpose a systematic massage of the vesicles themselves and of the adjacent prostatic region has been advocated, a process termed "stripping the seminal vesicles" being relied upon to effect a cure. That many cases are benefitted by this, what may be called drainage method, there is no doubt; but if equally good results can be obtained by other means, the irritation, which is sometimes caused by pressure upon the vesicles, may be avoided, and the surgeon will necessarily give his preference to another equally effective procedure, especially as the regular employment of the alternative stripping measure is not agreeable, and may be as well carried out by a trained masseur. For this purpose we have used in many cases the rectal irrigating tube already referred to when considering the treatment of prostatitis. By this application of moist heat a beneficial result may be looked for in this region whether the inflammation involved the prostate alone or co-exist with a catarrhal distention of the seminal vesicles. This hot douche irrigation brings about the same results as the application of massage. It assists the over-distended vesicle in voiding its contents, and by its resolvent action upon the circulation encourages resolution of long-standing inflammation. An additional advantage is that it can be employed by the patient himself, and no matter where he may be, it is generally possible for him to obtain the benefit of continuous treatment when circumstances might not permit him to make frequent calls upon his physician. In long-standing and chronic cases, like massage should be persisted in patiently over a long period. Some cases yield to it which have not been favorably influenced by massage. Some are entirely cured by it, others greatly improve. Those that fail to improve are quite likely to be tubercular or to have prostatic hypertrophy or contracted bladder neck conditions equally unsuitable for massage. The last named condition—contracture of the neck of the bladder—is not an infrequent result of prolonged suppurating inflammation in the posterior urethra. If the symptoms are urgent they call for perineal cystotomy for the purpose of incising laterally the fibrous ring, a means which alone ensures relief of symptoms.

109 East 34th Street, New York City.

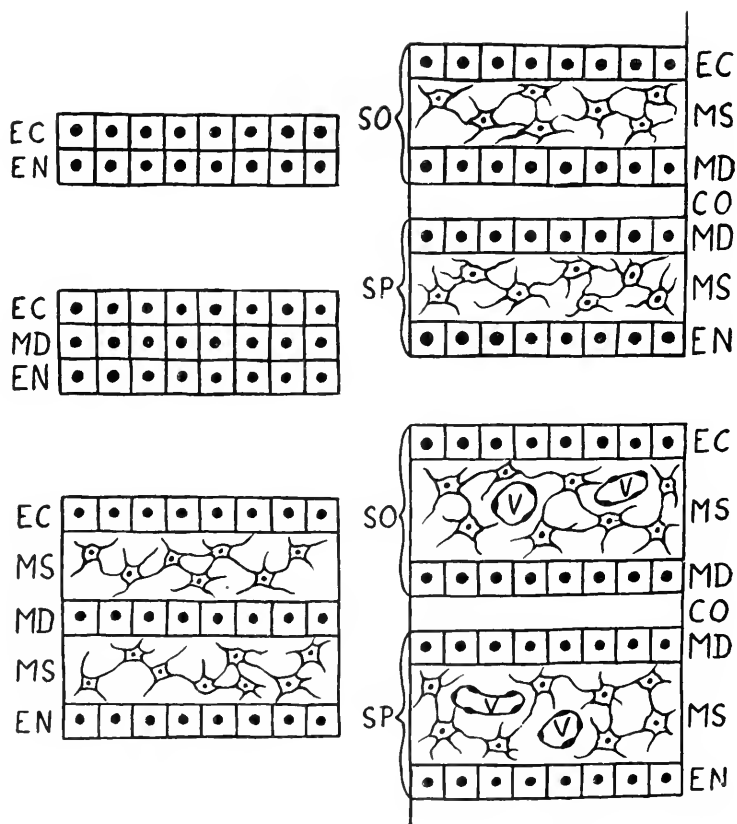
CLASSIFICATION OF TUMORS.

By B. H. BUXTON, M.D.

Instructor in Bacteriology, Cornell University Medical College.

TUMORS are classified according to the nature of the tissue from which they take their origin, and are usually divided into two principal groups, the epithelial and the connective

FIG. 1.



tissue. When, however, it comes to the question, "What is epithelium and what is connective tissue?" we find a variety of answers in the cur-

rent text-books; chiefly because the authors start out with the preconceived theory that all epithelium is derived from the two outer germ-layers and all connective tissue from the middle germ-layer, and their

FIG. 2.

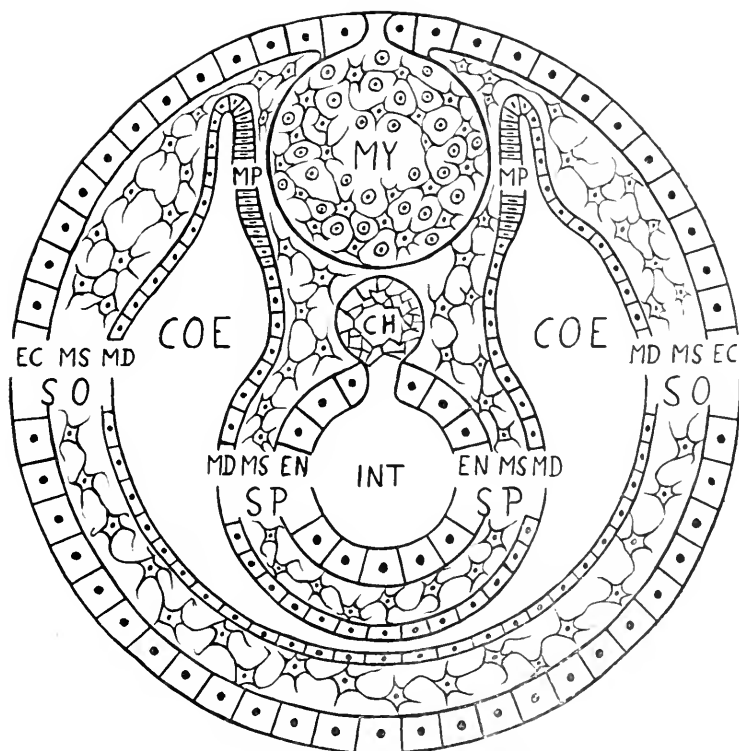


Fig. 2. Diagram of an early vertebrate embryo showing: (1) How the germ layers grow around forward, meeting and fusing ventrally in the median line. (2) Origin of the nervous system, MY., from the ectoderm. (3) Origin of the notochord, CH., from the endoderm. (4) Origin of the skeletal muscles, MP., from the mesoderm. MY., spinal cord; M.P., muscle plates; INT, intestine. The rest of the lettering same as in Fig. 1.

answers depend on the extent to which they can bring themselves to modify the theory in order to make it accord with the facts.

1. Epithelial Tumors.

Thelium (*θηλή*, nipple) indicates in biology a layer of cells, and the word epithelium should be strictly limited to those cells which, by lying closely packed together, without any intercellular substance beyond an

exceedingly thin sheet of mucilaginous cement between them, constitute distinct layers; no vessels penetrating between the cells.

Such layers line the external surface of the body, the lumina of gland alveoli, ducts and vessels, or they may be arranged in cords, as in the liver and suprarenals.

Understood in this sense, the various kinds of epithelium may be of widely different origin, and a brief sketch of the early development of the embryo, by way of explanation, will not be out of place; the accompanying diagrams showing the general principles of that development. At the close of the segmentation of the ovum the cells arrange themselves into two layers (Fig. 1*a*), the ectoderm and entoderm; the former destined in a general way to form the external covering of the body and the latter the lining of the intestinal tract, with the derived glands in each instance, and the individual cells of these two layers might be designated as ectothelial and entothelial.

A third layer, the mesoderm, soon makes its appearance between the other two, the cells of which will form the lining of the large serous cavities, the ureters, tubules of the kidneys, etc., and are called mesothelial. These constitute the three primary germ-layers (Fig. 1*b*). The middle layer now separates from the other two (Fig. 1*c*): the intervening spaces becoming filled with a serous effusion—the mesenchymal fluid—cells then detach themselves from the mesothelial layer at various points, and, taking on amoeboid movements, penetrate into the mesenchymal fluid. During this process they lose their epithelial characters in that they no longer constitute distinct layers, but lie scattered in the mesenchymal fluid without any particular arrangement. They are now no longer epithelial, but mesenchymal cells, which mostly, but not necessarily, as will be seen, become connective tissue cells. They shortly become fixed, and, assuming a stellate form, communicate with each other by means of branching anastomosing processes, and, together with the mesenchymal fluid constitute the embryonic mucoid tissue.

The mesoderm next splits in two; there is serous effusion between the two layers, but no cells penetrate into it and the space becomes the coelom, or body cavity (Fig. 1*d*).

At this stage there are, therefore, four germ-layers: the two outer with the intervening mesenchyme constituting the somatopleure, and the inner layers the splanchnopleure (Fig. 1*d*). Between the somatopleure and the splanchnopleure lies the coelom, which later becomes divided off into the pleural, pericardial and peritoneal cavities. Blood-vessels now make their appearance in the mesenchyme (Fig. 1*e*). Certain of the mesenchymal cells become hollowed out; developing the embryonic, nucleated, red corpuscles in their interior. Such cells mul-

tiply and by their union with other similar cells continuous blood-vessels are developed, whilst the mesenchymal cells, by means of which the vessels are formed, taking on epithelial characters, remain as the lining cell-layer, or endothelium, as it is called. As the meaning of the word endothelium, however, is generally extended so as to include also the lining cells of the body cavities, which are of totally different origin, it would seem appropriate to call the lining layer of blood-vessels "mesenthelium," thus indicating the origin of the cells and also their epithelial character. The same term might also be applied to the lining layers of the lymph spaces and vessels which are also of mesenchymal origin. If, therefore, it were desired to designate epithelium according to its origin it might be called ectothelium, entothelium, mesothelium or mesenthelium, but for the purpose of classifying tumors such nomenclature would be of no value, as an ectothelioma arising, say from the

	Epithelium.	Derived tumors.	Possible origin.	Examples of tissues or organs.
Epithelial Tumors.	Flat stratified and transitional.	Papillomas. Epitheliomas.	Ectoderm..... Entoderm..... Mesoderm.....	Epidermis. Bladder. Ureter.
	Columnar and cubical.	Adenomas. Carcinomas.	Ectoderm..... Entoderm..... Mesoderm.....	Breast. Gall Bladder. Ovary.
	Flat single.	Endotheliomas.	Entoderm..... Mesoderm..... Mesenchyme.....	Alveoli of lung. Peritoneum. Lining cells of vessels.

mammary gland, would have a very different appearance under the microscope to one arising from the epidermis, yet be indistinguishable as to its histological character from certain entotheliomas or mesotheliomas.

In classifying epithelial tumors it is better to do so according to the structure rather than the origin of the epithelium, from which they are derived, and for this purpose epithelium may be divided into three main groups, *viz.*: Flat stratified, cubical and flat single, calling the benign tumors derived from them papillomas, adenomas, benign endotheliomas, and the malignant ones epitheliomas, carcinomas, malignant endotheliomas respectively.

Before proceeding to deal with the connective tissue tumors it may be as well to note the position of the neuromas and myomas. In most text-books they are included among the connective tissue tumors, but nerve and muscle cells are in no sense of the word connective tissue

cells. They bind nothing together, but contribute to the activities of the organism, though of widely different origins; nerve-cells being derived from the ectothelium, and skeletal muscles from the mesothelium; whilst heart and non-striated muscles are differentiated mesenchymal cells. Nor can the two former be considered as epithelium since they have entirely lost their epithelial, even as the two latter have lost their connective tissue characters. The two principal groups must, therefore, be extended to four, and we can speak of:

2. Neuromas.
3. Myomas, subdivided into rhabdomyomas and leiomyomas, and
4. Connective tissue tumors.

Connective tissue cells are those which afford mechanical support to the organism; forming bone, cartilage, fibrillar or adipose tissue, according to circumstances, and are for the most part differentiated mesenchymal cells: originally, therefore, derived from the mesoderm, but neuroglia cells, which are derived from the ectoderm, must also be considered as belonging to the connective tissue group. They have completely lost their epithelial characters, and their sole function is to support the nervous tissue; performing for it the same offices as fibrillar connective tissue does for the muscles.

The notochord, which is formed by an involution from the entoderm is a purely vestigial structure in the higher vertebrates, but in some of the lowest persists throughout life, and forms a part of the endoskeleton: its cells having the characters and functions of connective tissue with which they must be classed. It is, therefore, evident that connective tissue may be derived from any of the three primary germ-layers, and the statements so often met with in text-books that epithelium is derived from the ectoderm and entoderm, whilst connective tissue is of mesodermal origin are, to say the least of it, misleading.

Provided endotheliomas, neuromas and myomas are excluded from the connective tissue tumors, there can be no objection made to the usual methods of classifying them. They would include:

<i>Benign.</i>	<i>Malignant.</i>
Fibromas.	Sarcomas.
Osteomas.	
Chondromas.	
Lipomas.	
Gliomas.	

The mixed tumors, being called "osteosarcoma," "chondrosarcoma," "osteochondrosarcoma," etc., according to their histological characters, and the sarcomas "spindle-cell," "round-cell," "giant-cell," etc. Before dismissing the subject, it will be well to call attention to

the angiosarcomas, which in text-books are generally made to include endotheliomas, and the so-called peritheliomas, or sarcomas arising in the walls of vessels. But the endotheliomas should be removed from the connective tissue and classed with the epithelial tumors, whilst the title perithelioma is a misnomer, since these tumors are derived from the connective tissue of the vessel walls, the cells of which do not constitute any definite layer. In the absence of the endotheliomas the expression "angio-sarcoma" indicates their nature sufficiently.

A word of protest may, perhaps, be entered against the use of the Greek plural for the "omas." The term "oma," with its prefixes, has been definitely adopted into the American language and if we talk of carcinomata and sarcomata we might, with as much reason, call tumors "tumores," or neoplasms "neoplasmai."

Index for Diagrams.

EC. Ectoderm.

CO. Cœlom.

EN. Entoderm.

MD. Mesoderm.

In the first figure, the diagrams
are read downward, beginning
at left, *a, b, c*, etc.

MS. Mesenchyme.

V. Blood-vessels.

SO. Somatopleure.

SP. Splanchnopleure.

Correspondence.

DOUBLE CHANCRE.

EDITOR JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES:

I think the following case one of sufficient rarity and interest to merit report in your columns.

Mr. O'M., 54, married, noticed a small "pimple" under his foreskin about two weeks after a suspicious connection. This lesion began to show signs of ulceration, when, two days later, a second ulceration made its appearance on the anterior aspect of the penis and about two inches below the glans. I saw the patient twenty-three days after connection. He presented the above lesions, the one to the right of the frenum, irregular, shallow, secreting little and not markedly indurated. The second ulceration was circular, superficial, slightly indurated and nearly dry. With the consent of the patient I inoculated his legs in four places with the scrapings from the ulcerations. I purposely used no anti-

septic precautions, washing simply with soap and water and rinsing with boiled water. I scarified the skin, rubbed in the matter scraped from the lesions and allowed to dry. Not one of the four points showed any signs of ulceration, all healing smoothly in a week or less. Two weeks after the first visit the patient developed a maculo-papular syphilide.

I believe that we may induce from this history that my patient had a double syphilitic infection, which showed itself in two specific chancres.

Very truly,

G. A. PUDOR.

Portland, Me., January 1, 1900.

Notice.

FOURTH INTERNATIONAL CONGRESS OF DERMATOLOGY AND OF SYPHILOGRAPHY. PARIS, 1900.

The Congress will take place at Paris, from the 2d to the 9th of August, 1900. All physicians can become members who have given notification of their intention before June 1st, and have paid the registration charges.

The latter will be 25 francs (\$5.00) and the right of a copy of the transactions is thereby obtained.

The topics chosen for discussion are:

A.—DERMATOLOGY.

1. Parasitic Origin of Eczema.

Reporters: Professor Kaposi, Drs. Unna, Jadassohn, Galloway, Brocq, and Veillon.

2. The Tuberculides:

Reporters: Professor Boeck, Drs. Colcott Fox, Campana, G. Riehl, J. Darier.

3. The Pelades.

Reporters: Mr. Malcom Morris, Professor Lassar, Drs. Pavloff, Mibelli, Sabouraud.

4. The Leucoplasias.

Reporters: Professor Behrend, Dr. Pringle, Dr. Perrin.

B.—SYPHILOGRAPHY AND VENEREALOGY.

1. Syphilis and Associated Infections.

Reporters: Professor Niesser, Drs. Bulkley, Ducrey, Hollopeau.

2. The Posterity of Hereditary Syphilites.

Reporters: Mr. Jonathan Hutchinson, Professor Tarnowsky, Dr. Finger, Dr. L. Julien.

3. Causes of Generalized Infections in Blenorrhagia.

Reporters: Dr. R. W. Taylor, Dr. Lesser, Dr. Tommasoli, Dr. Lane, Dr. Balzer.

Registration and all communications relative to the Congress can be addressed to the Secretary-General, M. le Dr. Georges Thibierge, 7 Rue de Surène, Paris, or to one of the foreign secretaries.

GEORGE T. ELLIOT,

Secretary for the United States.

No. 36 East Thirty-fifth Street, New York City.

Society Transactions.

FRENCH ASSOCIATION OF GENITO-URINARY SURGERY.

FOURTH SESSION, OCTOBER, 1899 (*Annales d. mal. des organes génito-urin.*, p. 1207, 1899).

(Conclusion.)

Umbilical Urinary Fistula due to Persistence of the Urachus in a Child Ten Years Old; Radical Cure.—DR. MOXON reported a case. The umbilicus and cicatricial skin about it were surrounded by an elliptical incision passing through the abdominal wall, the patent cord of the urachus was liberated, and a complete resection of this was made close to the bladder, even encroaching somewhat upon the summit of the bladder. The bladder wound thus made was closed in the ordinary manner for a true wound of that organ. This allowed the bladder to take its normal position free from any ventral attachment.

He insists upon the importance of good apposition of the abdominal wound to prevent ventral hernia by opening the sheath of each rectus muscle in order to obtain a solid closure.

Resection of the Perineal Branch of the Internal Pudic Nerves in Certain Painful Chronic Urethro-Cystites.—DR. ROCHET. According to the author there are some patients afflicted with a rebellious urethrocystitis or prostatitis, painful in character and accompanied by persistent disturbance of urination, who derive no benefit from any of the numerous methods of treatment ordinarily pursued. Some of those who come to cystotomy and drainage obtain relief which lasts only as long as the wound itself.

The pains vary (burning, smarting, lancinating), are accompanied generally by spasm, perineal, and even renal, there is frequent and imperious desire to urinate, sometimes micturition is checked by spasmodic contraction of the perineum and the peri-urethra.

In these cases the author obtained complete and definitive success by resection of the perineal branch of the internal pudic nerve on each side. Resection of this nerve, which innervates all the perineal muscles, superficial and deep, produced cessation of the spasmodic phenomena.

The operation is harmless, but requires skill and anatomical knowledge in order to find the internal pudic nerve. It should be sought for at its point of emergence from the lesser sacro-sciatic notch and followed to its division into the perineal branch, and the branch going to the dorsum of the penis. The author believes this to be a valuable resource after all other methods have failed.

Eleven Cases of Suprapubic Cystotomy for Vesical Calculus in Children.—DR. ESCAT reports that by total suture of the bladder he did not obtain results superior in any way to those furnished by drainage, except in one case which recovered in fifteen days. In three cases the vesical wound was disunited due, he thinks, to imperfect suture of the lower end of the wound, where it is

difficult to properly place the sutures. He thinks it advantageous to carry the incision as nearly as possible from the summit of the bladder, and where, on account of a large calculus, it is important to carry the incision downward, that then drainage is of distinct advantage. Duration of treatment is not sensibly prolonged by employing a single tube of small size (5 m.m. of internal caliber). In all cases of suture it is imprudent not to drain the space of Retzius.

Vesical Calculus in a Child 22 Months Old; Suprapubic Cut; Recovery.

—DR. BOUSSAVIT reported a case. The child was vigorous, in good health; began in May, 1898, to have difficulty of urination. Was obliged to strain each time he tried to pass water. Gradually the effort to expel the urine increased, then pain began to be present and urination was very frequent. Prolapse of the rectum developed. Search of the bladder under chloroform revealed a calculus. A calculus weighing 7 gm., composed of urates and phosphates, was found buried in the posterior wall. After its removal the diverticulum was curetted and the bladder drained by a single tube. The pain disappeared after the operation, the tube was removed on the eleventh day, the urine became clear. On the thirteenth day the bladder was closed and recovery uninterrupted.

Treatment of Calculi of the Bladder in Children.—DR. CARLIER has operated in twenty cases; all recovered. Five were operated upon by the suprapubic route followed by drainage; in four immediate total suture of the bladder was practised with success after suprapubic cystotomy. In eleven cases lithotomy was practised. He condemns perineal lithotomy in children. He thinks lithotomy the operation of choice, and only recognizes large size and extreme hardness of the stone as contra-indicating this measure. In such cases the suprapubic cut is best, should be followed by total suture of the bladder, and an almost complete closure of the abdominal wound, leaving at the inferior angle a small drain for three or four days.

Foreign Bodies of the Bladder.—DR. CIEVALIER presented a report of five cases, and four of the specimens, one having been crushed. Three were in women, two in men. Four were removed through the urethra; one, having perforated the vesico-vaginal septum, was removed by a vesico-vaginal incision. Four had been removed shortly after their insertion, and had caused only a passing traumatism; one had not been removed till six months after its introduction, and a large incrustation had formed about one of its extremities. The articles found in the cases of the women were a douche nozzle, the rubber cap of a medicine dropper, and a lead pencil, 10 cm. in length, inserted by its blunt end. It was this latter which had penetrated, by its sharpened point, the vesico-vaginal septum, but could not be withdrawn without operation, because of the calculus which had formed about the end remaining in the bladder. In the men one was a large *bougie à boule* that had broken off in the bladder and was removed by crushing with the lithotrite, the other, a soft Nélaton catheter, which was caught and withdrawn by the lithotrite with flat jaws.

DR. POTISSON reported three cases of foreign body in the bladder which was of interest. In one case a shell pin was removed, which had caused no infection at all, and no calcareous deposit. In the second case a hair-pin was removed by means of a wire bent into a hook, and seizing the loop of the foreign body through an endoscope introduced through the urethra. In the third case the

foreign body was 7 or 8 cm. in length, and lay transversely—it was *liberated* by a forced injection and then one end seized by a pair of long forceps.

He also reported a case which he *denominated* "false foreign body in the bladder." The patient, who catheterized himself with great difficulty, broke his catheter while trying to introduce it. Cystotomy was performed without finding the broken end in the bladder. As a matter of fact, the patient had made a false route.

The Lymphatic Ganglia Near the Bladder.—DR. PASTEAU. Topographically, the lymphatic ganglia of the true pelvic cavity may be divided into two groups. The parietal group, consisting of the latero-parietal (those grouped along the external iliac vessels) and the posterior parietal (those in front of the sacrum), and the central group situated in the soft parts. Among these latter are ganglia attached to the vesical walls. To these latter the author calls attention. They are situated in front of the bladder, sometimes even in the fat behind the pubes (anterior vesical ganglia), sometimes on the side along the umbilical artery (lateral vesical ganglia). The former have been described by Gëröta (of Berlin) and this year by Kuttner (of Tübingen), also by the author in a thesis, and by others. These lateral vesical ganglia have been known for a long time and described by many anatomists. Numerous anatomo-pathological observations also of degeneration of these ganglia have given new confirmation to the anatomical descriptions. The lymphatics tributary to these ganglia are in great part from the bladder; on the other hand Kuttner was able to inject these ganglia from the deep lymphatics of the penis and glans.

The clinical importance is indisputable. Ordinarily it is not possible to perceive them in the case of tumors; but their inflammation may (as is taught by Dr. Bazy) be the focus of adenophlegmon along the vesical walls.

Four Cases of Adenoma of the Bladder.—DR. MOTZ, in 100 cases of tumor examined histologically, found 4 cases of adenoma which had undergone an epitheliomatous degeneration. In one case the tumor was discovered and the patient operated upon. In three other cases the adenomata were found in the trigone on autopsy in old men who had suffered from chronic inflammation of the urinary tract. In one of these cases a nodule was found in the corresponding ureter and determined to be adeno-epithelioma. In the other two cases an adeno-epithelioma was found in the prostate.

Ultimate Results of Surgical Intervention in Tumors of the Bladder.—DR. MOTZ. The value of surgical intervention has not been definitely settled. Pousson in 1895 presented statistics of operations upon vesical tumors which showed that the longest survival after operation in patients was from two to four years. The statistics of Albarran and Clado are apparently in complete disagreement with these figures. Albarran showed 36 cures out of 48 cases of benign, and 23 cures out of 97 cases of malignant tumors. Clado gave out of 67 benign tumors 49 cures, and of 111 malignant tumors 28 cures. The author examined the records at the Necker Hospital and found 55 cases which had undergone operation. In 35 of these, at least 3 years had elapsed and 10 patients found who were still living. Of these 35, 18 were histologically cases of epithelioma, of which only 1 had survived 3 years. Of the papillomata there were 9, with 7 survivals and 4 recurrences.

DR. MALHERBE believes that epitheliomatous tumors can only show bad re-

sults; it is not so, however, with papillomata. He reported cases remaining well 2½, 3, or 3½ years. Two of these had papilloma. Another patient with an immense papilloma was still well at the end of a year. Another case reported at the meeting of 1897 was an old man with an encysted tumor of the bladder springing up beneath the mucous membrane, having the volume of a pigeon egg and occupying the pubic arch. The tumor had been removed and patient still survived, now over 2½ years.

Urinary Disturbances in Appendicitis.—DR. DURET explained that these phenomena were observed when the appendix was ectopic and close to the bladder; this is rather frequent, as pelvic ectopia varies, according to writer, from 20 to 30 per cent. nearly. He does not refer to cases that are purely reflex. He divides the accidents into three categories. First, prolonged retention, dysuria pyuria, and even pyelonephritis. There is, however, no communication with the appendix. The latter lies near the bladder and gives rise to a pericystitis and a vesical infection *à distance*. These phenomena may even point to the abnormal situation of the appendix. Second, lesions accompanied by purulent collections. From the observations gathered, we may meet with pyovesical fistula when an abscess opens into the bladder, or pyo-stercoco-vesical fistulæ, and even pyo-stercoco-intestino-vesical fistulæ. The urine is purulent, may be fetid and contain foreign bodies. In some of these cases cure has been obtained by prompt operation on the appendicular focus, in other cases the fistula has required separate treatment. Third, this category includes cases in which perivesical calculi occur, whether stercoraceous, stercoro-urinary, or simply urinary.

DR. REYMOND agreed with the speaker, having held these views since 1893.

DR. POUSSON: The communication of Dr. Duret had cleared the pathogenesis of an intestinal perforation into the bladder, which he had observed five or six years before. The patient, a large eater, subject to pains in the iliac fossa, passed gas and fecal matter from time to time by the urethra. Operation was made by suprapubic cystotomy, and an opening was found on the right side of the bladder and was sutured. The speaker had never before been able to make a satisfactory explanation of the condition found, but believes now that the perforation had followed an appendicitis. He wished to add another class of cases of urinary disturbance due to appendicitis, he had had a patient suffering from anuria, was about to operate, when there came a large flow of urine, showing that the ureter was at fault, as the catheter left *à demeure* had previously brought no urine. Operation was deferred and patient died. On autopsy a collection of pus in the region of the appendix was found pressing on the ureter.

Frequency of Urination Due to Uric Acid.—DR. CHEVALIER. It is now well known that abnormal compositions of the urine may cause frequency. But this condition is often accompanied by pain, sometimes with a purulent aspect of the urine (of which, however, the microscope will reveal the true condition), and has given rise not infrequently to errors in diagnosis. The patients have been thought to have a cystitis, when their condition has been due to an increased acidity of the urine only.

Local treatment, lavage, or instillations only serve to increase the symptoms, while relief is obtained by an anti-gouty regimen.

Purulent and Tuberculous Urine.—DR. NOGUÉS. The finding of the tubercle bacilli in the urine is not indispensable in order to establish the diagnosis

of urinary tuberculosis. The purulence, with absence of every kind of micro-organism, should be a sign of diagnostic value. The various methods of search, microscope, cultures, inoculation of animals, are merely confirmatory according to Dr. Noguès. Examination of the sediment is the easiest method, but the least sure. The centrifuge helps. Cultures are not sure, though of greater value, and if the medium remains sterile, where the ordinary media are employed, there may be an almost absolute certainty that the urine is tuberculous. The inoculations on animals in doubtful cases are of still greater value. In the experiments carried on by the author there were two varieties of cases. In one set of cases no bacilli, but there were found micro-organisms of diverse forms, but the clinical evolution permits the diagnosis of tuberculosis. This group included five cases, all negative. But it would be a mistake to conclude that there was no tuberculosis.

The second group of experiments includes those urines in which neither bacilli nor any other micro-organism could be found microscopically. In these cases out of 22 cases inoculated, in 15 the animals succumbed with characteristic lesions. Thus a purulent urine and absence of micro-organisms is a sign of great value in favor of tuberculosis. But should we generalize them and say in the absence of tubercle bacilli and all other micro-organisms that we always have a tuberculous urine? Noguès answers: No; that we should take into account the possibility of the presence of anaerobic microbes which may occur under similar conditions.

DR. CARLIER had five cases presenting a purulent urine without finding bacilli; three of these latter became tuberculous.

DR. JANET adds to the urine which he centrifuges either a little alcohol or a little ammonia. This proceeding permits often of the finding of bacilli in urine almost clear.

Alkaline Bacteriuria. — Pseudo-Phosphaturia. — Pseudo-Pyuria.—DR. ESCAT. The cases of alkaline bacteriuria published up to the present time are rare. The author had had two cases in the present year. One patient had had cloudy urine for twenty years, which gave a viscous and chalky deposit, and on drying formed phosphatic gravel. The second was believed to have an incurable cystitis for at least fifteen years, and presented the same symptoms as the first case, frequency and painful urination whenever there was emission of the sediment. In both cases the urine, which was very cloudy, cleared immediately, by the addition of acetic acid. The dried deposit was formed by crystals of ammonio-magnesia phosphate, and micrococci in large masses. There were very few leucocytes in the sediment, sometimes there were streaks of blood. The first patient was 50 years old, had had several attacks of gonorrhea twenty years before. The urethra was in good condition; the state of the prostate was doubtful. The second had a stricture of large caliber, resistant, which was dilated. Diagnosis made was alkaline bacteriuria. There were present urea-decomposing micrococci determining, with the alkalinity but slightly marked, the precipitation of the phosphates. There had been no phosphaturia and no pyuria, and in spite of the imperious micturition and vesical pain, with streaks of blood, there had been no true cystitis. Neither instillations nor lavage with silver nitrate, nor the administration of salol, nor mineral waters, proved of any use. Under daily irrigations of the bladder with boric solution without a catheter the symptoms gradually subsided.

Surgical Intervention in Certain Forms of Medical Nephritis.—DR. POUSSON. The beneficent results obtained by the various operations upon the kidney in the suppurative nephritis and pyelonephritis and their comparative harmlessness has induced the author to attempt to apply surgical measures in certain nephritides, hitherto looked upon as medical cases, which threaten the life of the patient. He was able in the case of a woman suffering from a nephritis with profuse hematuria and alarming symptoms of uremia to check the disease by a nephrotomy. The patient, before operation, had diminished flow of urine, a small percentage of urea, and a large proportion of albumin. After the incision into the kidney, the secretion of urine was reestablished, the albumin diminished, and the urea increased in amount, and the uremia disappeared. Although a fistula remained, the improvement was maintained, but after closure they returned but with less violence. He further presented results in 24 instances of intervention in nephritis, complicated by grave symptoms. In 9 cases of nephritis with hematuria, there were 7 nephrectomies, with 2 deaths and 5 recoveries, 1 nephrectomy with recovery, 1 simple exploration with recovery. In 4 cases of subacute infectious nephritis there were 4 nephrotomies with recovery. Eight cases of acute infectious nephritis; 3 nephrectomies with recovery and 5 nephrotomies with 2 deaths and 3 recoveries. As to the therapeutic results, in the first set the hematuria disappeared at the same time the urinary secretion, and elimination of urea were reestablished. The pain abated in the nephralgias. The albumin disappeared in the cases of subacute nephritis, and the fever and other symptoms in the severe infectious cases also disappeared.

The older objections to operative interference were that the lesions were likely to be bilateral; also, the difficulty of determining the affected side when unilateral. In the cases cited the disease was unilateral and the new methods of diagnosis with cystoscope and catheterization, together with the array of cases, certainly answers these objections. Further, the mode of action of the nephrotomy is explained by the suppression of the intrarenal tension. The happy results which ablation of the affected kidney may have upon the amelioration of the condition of its congener in nephrectomy, is explained by the cessation of the reno-renal reflex. Nephrectomy here playing a rôle analogous to the enucleation of one eye in sympathetic ophthalmia.

Cryoscopy Applied to the Renal Function.—PROFESSOR ALBARRAN, in his own name and in the name of DRs. BERNARD AND BISQUET, gave his conception of the probable future value of cryoscopy, aided by ureteral catheterism and promises further work in the future.

Nephritis in Cancer.—PROF. ALBARRAN. It is of general belief that in epithelial cancer of the kidney the parenchyma at a distance from the tumor is healthy. It is known only that the renal zone surrounding the tumor is the seat of more or less advanced sclerosis. The author has examined in 11 cases of epithelioma of the kidney the tissue at a distance from the neoplasm, and in every one he has found lesions in portions of the kidney not invaded by the tumor, both interstitial and parenchymatous. In a single case of sarcoma examined these lesions did not exist.

In 3 patients by ureteral catheterization he found on the affected side a diminution of urea, phosphates, and chlorides. Twice by methylen-blue he proved disturbance of elimination on the affected side and once by cryoscopy

the urine of the affected side showed the point of congelation to be 0.50, while that of the healthy side was 1.54.

Thus, while the cancerous kidney was always shown to be profoundly affected by nephritis, the other might be healthy or might also show signs of nephritis.

Experimental Research on the Grafting of Suprarenal Capsules upon the Kidney.—DR. IMBERT.

Nephrolithotomy.—DR. TUFFIER answers criticisms of the operation ordinarily practised. He takes up four points. The direction of the cutaneous incision, manner of making the muscular breach, in order to reach the kidney, the incision into the kidney, and its suture.

As to incision, he prefers one much more oblique than the one ordinarily practised approaching as much as possible the direction of the twelfth rib. The ordinary muscular incision is merely a deepening of the cutaneous wound, but as the fibers of the different muscular planes run in different directions the result is less space than we have a right to hope for and the repair of the wound is more difficult. He believes that the method of separating the muscular planes as is gradually coming more and more into surgical use, should be applied to nephrolithotomy so far as possible.

In the incision into the kidney he prefers that along the convex border, and believes it to be superior to the proposed one, 1 cm. in front of the convex border, on the supposition that there is less vascularity. He believes the former incision to be more direct.

As to suture, in general he prefers a single one, and further aid to closure is best obtained by tampons of sterile gauze over each surface.

Hydronephrosis from Calculus of the Pelvis.—DR. POUSSE reported a case of a man thirty-six years old, who began at twelve to have vague symptoms of lithiasis, and at thirty began to have hematuria. The attacks of hematuria at first at long intervals became more and more frequent, and had all the characteristics of congested hemorrhage, by their abundance and duration. Tuberculosis or cancer were thought of. Palpation of the affected side was negative, though the cystoscope revealed which side was affected. The curious phenomena was the fact that although the kidney was much enlarged, it was not displaced downward—a very unusual condition.

* **Calculous Anuria of Unusual Form; Nephrostomy; Recovery.**—DR. ESCAT reported a very interesting case in a young girl, twenty years old.

Pyonephrosis Following Grippe. Nephrolithotomy.—DR. DESNOS.

Hydronephrosis from Ureteral Calculus.—DR. CARLIER.

Mechanism of the Hydronephrosis in Cancer of the Bladder.—DR. DU RET.

Lithotrity in One Seance.—PROFESSOR TEDENAT. Many surgeons in Germany, though having tried lithotrity, have endeavored to substitute systematically suprapubic lithotomy. The cutting operation has its indications, and thanks to modern asepsis and technic, results are improving, but the mortality, according to most recent statistics, is still 15 to 25 per cent, according to the age.

The mortality of litholapaxy varies from $1\frac{1}{2}$ to 3 per cent. The author

has 56 litholapaxies, with a mortality of 1.85 per cent., and he has successfully removed enormous stones. A uric-acid calculus of 7 centigrammes (?), weighing 204 gram, in a man 55 years old, recovery in ten days, the patient getting up on the fourth day. In an old man with prostatic hypertrophy a calculus of 6 centigrams was removed, with rapid recovery. One of 5 centigrams, in a man eighty-two; two cases had oxalic calculi of 3 and 4 centigrams, respectively.

He believes neither prostatic hypertrophy, infected bladder, nor large volume of stone to be contra-indications to lithotripsy followed by aspiration, provided that between the stone and the bladder wall there is space for the lithotrite, then crushing is possible to a surgeon who knows how to work his instrument. Let one become master of his technic and his mortality is one-tenth that of the cutting operation.

Radiographs of Calculi of Kidney.—PROFESSOR ALBARRAN showed three radiographs in which calculi were discovered and diagnosis confirmed by nephrolithotomy.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Tuesday Evening, November 14, 1899, at 8.30 P.M.

G. K. SWINBURNE, M.D., Chairman.

PRESENTATION OF SPECIMENS.

Adenosarcoma of the Kidney.—DR. GUITERAS presented a specimen and gave the history. The patient was a man 50 years old; past history was negative so far as his urinary system was concerned. About a year before he had his first attack of hematuria which lasted two or three weeks; has had repeated attacks since, varying in severity and in duration. The attacks came on more often when he was traveling. He complained of pain on left side of abdomen. He had lost 50 pounds during the existence of his trouble. Of late his attacks of hematuria had increased in severity.

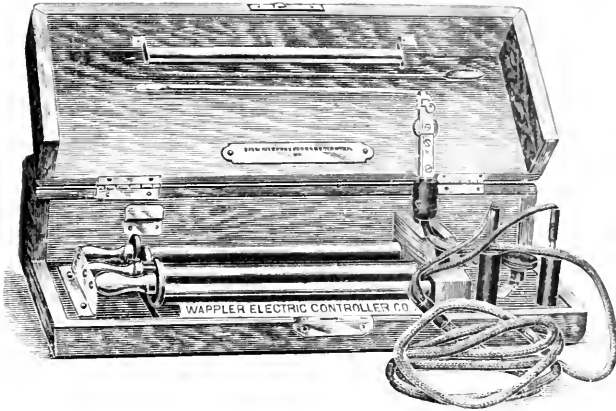
On examination, the left kidney was easily made out to be enlarged; the right kidney was palpable. There was a large varicocele on left side.

The left kidney was removed by the lumbar incision, there was a large amount of hemorrhage, but patient recovered from operation, after transfusion and stimulation, and made complete recovery. After recovery, the varicocele had disappeared.

PRESENTATION OF INSTRUMENTS.

A New Urethroscope.—DR. CHAS. H. CHETWOOD presented what he considered to be a very compact and complete little urethroscope, for which he did not claim any originality except that he had coöperated more or less with the manufacturer, the Wappler Electric Company, in its construction. Strictly speaking, it is not entirely new. It is a modification of another instrument of

similar kind, which was recently shown to this Section by Dr. Valentine, but was really an improvement or a modification of Oberlander's modification of Nite's urethroscope, the principle being that, instead of reflecting the light, the latter is brought within the urethra by a small lamp, instead of an incandescent wire. The disadvantage of the original instrument (Oberlander's) constructed on the same principle was that it required the attachment of a very expensive cooling apparatus, and made a very cumbersome instrument. This instrument did away entirely with the cooling apparatus and could be left in the urethra



indefinitely without producing an undue amount of heat. The same advantage was claimed by Dr. Valentine for the instrument shown here before, but this had other advantages. The lamp could be taken out and changed by the surgeon himself, in place of having to send it to the factory and waiting for it, and the whole apparatus was complete, battery and all, in the little box exhibited. The dimensions of the box were $10\frac{1}{4}$ inches long by $5\frac{1}{4}$ inches wide by 2 inches depth. The interior arrangement was simply a cheap dry-cell battery, such as may be obtained almost anywhere.

DISCUSSION ON DR. CHETWOOD'S URETHROSCOPE.

DR. GUITERAS thought the instrument shown by Dr. Chetwood was the most practical one ever put on the market, and for both the purposes of examination and diagnosis very superior to anything yet seen. It is also convenient on account of the size and ease with which it can be carried about.

DR. SWINBURNE: The points of great convenience in this instrument are the ease with which the lamp can be adjusted and removed, and the firmness of the handle of the light carrier while the lamp is *in situ*. One point he overheard Dr. Pedersen ask Dr. Chetwood was whether, in making applications to the urethra with a cotton swab, the cotton might not catch the point of the lamp and drag it out on removing the swab. This very thing had happened more than once to the speaker with the instrument he had been in the habit of using, so that when working with the smaller tubes it was generally his habit to remove the lamp before making the applications and then replace it. Should this be necessary with the lamp shown, the presence of the switch for turning

off the light and the ease of removal of lamp made it superior to any other lamp. The fact, too, that the handle on the light carrier can be used as a handle to the urethroscope adds to the convenience of using. The speaker had for a number of months been using the instrument which had been presented to the section by Dr. Valentine, and had liked it better than any that he had ever before used, but there were certain inconveniences which he noted every time he had used it, and it seemed to him that the instrument shown to-night had succeeded in overcoming those drawbacks.

Whether one can make applications readily, with the lamp *in situ*, depends a good deal on the size of the tube. If one is able to use a large tube, there is no difficulty in making the applications. There is one difficulty, however, with the lamp at this situation that he has noticed, and that is if there is a little bleeding the blood will get on the lamp and obscure the light, and must then be removed and washed, so that unless one has several light carriers at hand sometimes it is better to remove the lamp to make applications.

DR. CHETWOOD said he had not found any particular difficulty in regard to the cotton catching on the point of the lamp, although he imagined it might occur. He thought it would depend upon the size of the tube, as the Chairman had said, and also the size of the applicator. If the lamp became covered with clotted blood, of course, it was obstructed, but it was a matter of only a few seconds to take the light out and clean it and put it back again.

Some Notes on Prostatitis and Seminal Vesiculitis.*—DR. CHARLES H. CHETWOOD read the paper on this subject.

DISCUSSION.

DR. RAMON GUIERAS said that the subject had been so thoroughly gone over and there was so much of it one hardly knew where to begin. There were a few points he had jotted down which he thought might be of interest.

In the first place, regarding prostatitis: As the speaker understood acute prostatitis, we have the follicular and the parenchymatous form, which simply vary in regard to the amount of gland tissue invaded. The parenchyma of the prostate consists of the acini or follicles, and when there is a follicular prostatitis one or two or three or a few of them are involved, and when there is the parenchymatous form a larger number of them are involved, perhaps those of a lobe or the greater part of a lobe.

In regard to acute cases of prostatitis, whether they be follicular or parenchymatous, there are certain symptoms which are very troublesome. The symptoms that were formerly the most pointed out as indicative of acute inflammation of the gland were those referring to the rectum, principally pain. Now, in regard to the pain in the rectum, it very often does not occur. In follicular cases especially the pain is generally not present. In the parenchymatous form pain in the rectum is liable to occur, but in either case there may be a heavy feeling in the gut—a feeling as if something were there, as if the rectum were loaded.

Retention is a very troublesome symptom and very often in a limited follicular process it is very obstinate. He had sometimes spent half an hour trying to catheterize a patient, in follicular prostatitis, when there was such a contraction of the cut-off muscle that it was almost impossible to introduce a catheter

¹ See page 63.

and he had thought at times he would have to resort to puncture of the bladder to relieve the condition. Luckily, however, the catheter usually either goes in or else the pressure of the instrument against the cut-off muscle is sufficient to cause enough relaxation to allow the patient to pass urine. In such cases, after he had tried for a long time to introduce the instrument and had been very much worried, he had said to the patient, "Now, I think you can pass urine all right," and the patient had almost invariably gotten up and passed it; but it must be remembered that in any case of acute prostatitis, whether there is abscess formation or not, the spasm of the cut-off muscle or of the vesical sphincter may produce a most troublesome attack of retention, and when we are successful in relieving it we are so afraid the retention will come back again, and we will have to resort to puncture of the bladder, that we tie the catheter in for several hours and sometimes for two or three days at a time until the spasmodic element wears off.

In regard to chronic prostatitis, he agreed with Dr. Chetwood that where the conditions show we have an abscess cavity in the prostate as the result of a former abscess of the gland, that it is about as difficult a condition to treat as any we can find. The posterior wall of these abscess cavities may be often felt through the rectum as an area softer than the surrounding healthy gland, and after massage we can generally feel this soft part is more depressed, and if the patient then passes urine quite a considerable amount of detritus will pass away with it, showing that the soft spot was the wall of a prostatic abscess and which was partially filled by the accumulation in it of inflammatory products which the massage had pressed out into the urethra.

Another word regarding acute prostatitis. Acute prostatitis very often gives the patients considerable trouble. They may have one follicular abscess after another; they usually have a slight chill, followed by fever and the developing an abscess that breaks either into the urethra or into the rectum—usually into the former. They then improve for a few days, when another attack comes on, and another abscess develops. These abscesses of the prostate recurring may do the patient considerable harm and pull him down to a condition where he is very much below par, and from which it will take him a long time to recover, and they do at times end fatally. The prostatic plexus which surrounds the prostate gland is a very favorite place for the development of septic phlebitis and a general septic-pyemic condition then follows. It is not infrequent to see in cases of abscesses of the prostate gland a septic condition which may last for several weeks at a time.

In regard to the treatment of chronic prostatitis, especially a condition where there is an abscess sac present and where there is an accumulation of discharge going on, he thought that the only method of obtaining any satisfaction was by hot rectal douches, as Dr. Chetwood had suggested, by massage of the prostate and urethral irrigations. The speaker believed urethral irrigations in these cases were far superior to instillations. The bulging of the walls of the urethra that we obtain by the hydrostatic pressure is sufficient to dilate the distended prostatic ducts and any sinus going into the abscess cavity and wash out the latter, and if we do this after the massage has taken place we then wash out a cavity which is as free from discharge as possible.

Referring to tubes for rectal douching, he had one that he would like to show. It was somewhat different from that of Dr. Chetwood's. It was made of hard rubber, but could be made of glass. The tube has a slight turn on the end, which makes, of course, a concavity and a convexity. Its end is smooth,

there being no opening in it. The opening for the inflow is on the anterior surface, while that for the outflow is on the lateral surfaces. The advantage of this is as follows: In the first place, both of the lateral openings are larger than the inflow opening so that the water will have no difficulty in escaping, which is one of the greatest difficulties to overcome in rectal irrigation as it always goes in easily, but the return flow is easily blocked. In this tube it will be seen at the opening the inflow is on the concavity, which is shaped to conform to the convexity of the prostate. Therefore, to apply moist heat directly to the gland it is necessary to have concavity near the end of the instrument to fit over the convexity of the prostate so that when the inflow is taking place the hot fluid as it comes out of the tube flows right against the gland which we are desirous of treating.

So, too, in seminal vesiculitis, the same thing applies. The seminal vesicle also bulges out and is more or less convex and if we push this tube a little further into the rectum we put it over the seminal vesicle, and we can then very easily make application of moist heat to it as well. This tube the speaker said entered better than any he had ever seen. Very often the tubes which have an opening at the end catch as they enter the rectum. This, however, his patients say is inserted with much more ease.

In regard to the fluids to use in giving these douches or irrigations: Hot saline solution is one of the best, and in some cases where perhaps it is not as efficacious as we would like to have it, especially in the acute cases, hot flax-seed tea, strained, is very grateful to the patient.

Referring to the amount of heat, he always told his patients to take it just as hot as they could stand it. Certain men say that rectal douches for the relief of prostatitis and seminal vesiculitis ought not to be given at over a temperature of 105°, but often we have patients who can stand it as high as 120°, and it appeared to him it would do more good the hotter it was.

Abscesses of the vesicles, the speaker thought, were exceedingly rare, and he did not remember ever having seen a case of the kind; that is to say, where the abscesses had broken into the rectum.

He believed Dr. Chetwood said he did not believe in hot douches in acute seminal vesiculitis. The speaker was of the opinion that more benefit was derived from these than from anything else.

In regard to tuberculosis of the internal genitals the condition was much rarer than one supposed.

Massage of the prostate and seminal vesicles is an easy thing to speak of, but a very difficult thing to do. In reading the text-books on genito-urinary troubles, the authors say very glibly "massage of the prostate" and it is difficult for the reader to understand what massage of the prostate is. The speaker said he would, therefore, describe the technique briefly. In the first place, he inserted the finger up to the base of the vesicle as far up as he could, and then began a rotary movement, exerting a slight amount of pressure towards the neck of the vesicles, then coming down to the prostate. When he reached the base of the prostate he went up to the other vesicles and began this same rotary movement downwards, using very slight pressure. Then he proceeded down the prostate and gradually came down over the other lobe this way, the bulk of the pressure being over the part of the prostate through which the ejaculatory duct flows. In that way he thought a great deal more was accomplished than could be done by stripping, and the patient was never injured. He had never had but one patient faint away when he was palpating the seminal

vesicles and in that case he was examining and not massaging them. Of course, sometimes the patient complains of great pain when you touch the seminal vesicles, and even in cases where there is very little enlargement of the vesicles, just touching the vesicle with the end of the finger causes sufficient pain to make the patient cry out and try to escape from the inserted finger.

DR. JAMES PEDERSEN congratulated Dr. Chetwood on the title of his paper and on the way he had handled the subject. To the speaker the morbid conditions of the prostate and seminal vesicles were exceedingly interesting. Their pathology was not always easy to make out and very often they were difficult matters to treat. Hence they were, as the speaker said, interesting.

He was glad to have had called to his attention the beneficial effects of hot rectal irrigations, such as Dr. Chetwood and Dr. Guiteras had spoken of; their remarks would stimulate him to try that method again. He confessed he had not tried it long enough, nor persistently enough, to speak with confidence about its results.

He thought Dr. Guiteras' point, regarding the design of his rectal tube, was well taken. It was so arranged that the inflowing current was directed against the prostate. We were led to believe that there was a beneficial effect, not only from the heat and moisture, but also from the impact of the water against such a body as a chronically inflamed prostate is, that impact having a specific effect apparently upon the blood-vessels.

One point in Dr. Chetwood's paper surprised him, if he might say so. He did not know that spermatorrhea was as common as he seemed to imply, and he wished he would touch upon that point again. Dr. Chetwood said that spermatorrhea was quite often a complication of chronic prostatitis. Merely running over in his mind the cases of chronic prostatitis which he had seen (the chronic prostatitis that all of us see immediately associated with or as a consequence of posterior urethritis) he did not recall having seen very many cases of what he understood to be true spermatorrhea; namely, a sort of "overflow" of the contents of the seminal vesicles and ampullae, just as prostaticorrhea is an "overflow" of the prostatic secretions.

One word as to the technique of massage of the vesicles and prostate. He fully agreed with Dr. Guiteras' description of it. Furthermore, he thought it was the technique generally employed, even by those who used the word "stripping" instead of "massage." What they really do is a *massage*; namely, a sweeping or rotary motion of the finger as it is brought down over the vesicle and over the corresponding lobe of the prostate, whereas "stripping" would indicate a steady downward stroke. Therefore, the speaker said "stripping" was a misnomer.

There was one point the speaker said he omitted to allude to, and that was the nature of the fluid used in rectal irrigations. In conversation with one whose specialty was diseases of the gastro-intestinal tract, he was told that for rectal irrigations nothing but normal saline solution should be used, as otherwise a colitis might be excited.

DR. BOLESŁAW LAPOWSKI said he would confine himself to some remarks about prostatitis due to gonorrhea. First, as to the occurrence of prostatitis in gonorrhea. More than 70 per cent. of prostatitis were due to gonorrhea. Dr. Chetwood does not rely upon any manual rectal investigation alone in determining the condition of the prostate. He entirely agreed with him in that respect. A microscopical examination is necessary to determine the exact condition of a prostate, and here was one point he would like to call attention to. In

examining the prostatic secretion with a view of obtaining Böttcher's crystals, if there is an admixture of urine we should avoid the use of the centrifuge, otherwise the addition of phosphate of ammonia will fail to bring into view the desired crystals.

Next comes treatment. In speaking about treatment of prostatitis we must distinguish two points—the cure and relief. Dr. Chetwood did not mention "cure." He only spoke of relief. He was entirely in accord with him as to the last point. But in order to relieve a patient and not cure him a good many ways of treatment must be discarded. Washing out the prostatic urethra in acute prostatitis, or the application of nitrate of silver, he seldom, if ever, used; only in some forms of chronic prostatitis he resorted to hot and cold water by means of psychrophor. The most important and effective treatment was the rectal treatment. He avoided massage. He could obtain the same results with hot water per rectum. Sometimes a sudden change from hot to cold and cold to hot irrigations of the rectum affords the patient a great relief. The position makes no difference. He had seen very good results, especially in chronic cases, from injecting by means of a 5 per cent. gram syringe a syringe-full or sometime two syringes of a mild solution of iodid of potash alone or with pure iodine and glycerin. A few drops of pure ichthyol or several grams of a mild solution left in the rectum was often beneficial. He had good results—sometimes very good results, especially in chronic cases, from the application of blue ointment to the anal region with or without immediate applications of hot water to the same place. In a great many cases he saw the infiltration in the prostate disappearing very quickly. In acute cases the patient obtained quick relief from the application of leeches to the anus.

As to the occurrence of spermatorrhea, not only in chronic cases of gonorrhea, but also in acute gonorrheal attacks, sperma might be found in the urine. He had at present such a case under his care. The patient was suffering for the first time from gonorrhea. The microscope revealed several times the presence of moving spermatozoa in the cloudy second portion of his urine. It is quite impossible to "cure" a prostatitis due to gonorrhea so long as the gonococcus remains in the prostate. The only point is to relieve the patient from pain. That we can do in many ways, and in the way which will not do any harm to the patient, and that way is the best way.

The speaker asked Dr. Chetwood his opinion regarding the consequences of bicycle riding for patients who have suffered from prostatitis. He usually advised them to discontinue that kind of exercise.

DR. SWINBURNE in the main agreed with almost everything Dr. Chetwood had said. He would like to ask him, however, why he thought hot douching was not good in acute seminal vesiculitis. In acute prostatitis, where there is threatened abscess, the speaker said he had, on several occasions, obtained excellent results by hot rectal irrigations. He used a saline solution and began at about 110°, but found that a temperature of 120° was very grateful to the patient.

So far as the form of the tube is concerned, the main thing it seemed to him was to have a tube which has a good outflow, so that we can, so far as possible, have a continuous current.

Dr. Lapowski had spoken about the use of alternating heat and cold douching. He had had no personal experience with it. We all know and have seen the reports of men that massage is given, and hot irrigations are given with good results. It is well to know what things will accomplish certain results, and it

is also well to know in what manner those results have been accomplished. Sometimes we may combine massage and rectal irrigations, or we may use irrigations alone without the massage. There will always be cases where, in the failure of one method, we have to look to some other means.

Dr. Lapowski spoke of the use of the injection of small quantities of medicine into the rectum. The speaker had used ichthyol in rather concentrated form in a very few cases with good results. As far as the local treatment of the posterior urethra by means of irrigations or instillations is concerned that too has always depended upon how near the surface the trouble lay. He agreed entirely with Dr. Chetwood that we should avoid, so far as possible, the passage of sounds and other instruments into the posterior urethra. Certainly we should unless we know what we are doing.

He would like to ask him his opinion in regard to bloody ejaculations. It has seemed to the speaker that this occurred more frequently where there is congestion or inflammation of the posterior urethra and the blood seemed to him to come from the posterior urethra rather than from the seminal vesicles.

DR. FERD. C. VALENTINE regretted that he was prevented from being there in time to hear the paper of the evening. The speaker asked permission to outline what seemed to him to be a few practical points.

The posture of the patient for examination of the prostate and seminal vesicles and for stripping and massage of these organs is usually described as causing him to bend over a chair or operating-table. As many of these patients have quite a large panniculus adiposus, its weight, when the patient stands bent over, drags the abdominal viscera upward and with it those of the pelvis to a degree. Consequently, the prostate and seminal vesicles are drawn away from the finger that is inserted into the rectum. To counteract this the operator's left hand is to support the pendant belly. Especially when the abdomen is large and the perineum rigid, the work, whether exploratory or therapeutic, is rendered more difficult thereby. The speaker said he preferred to perform them with the patient in the recumbent position. Then the pressure of his left hand, aided, when necessary, by the weight of his body, crowded the pelvic viscera downward, approaching them more easily to the finger in the rectum.

Whenever the bladder was sufficiently tolerant for the purpose, he filled it with boric-acid solution to a comfortable degree. Instead of a flaccid, collapsed organ it was then a globe, which could be more easily manipulated from above. Naturally he preferred, whenever possible, to fill the bladder for this purpose by means of the irrigator.

The details of the patient's posture are not unimportant in this connection. It is best to have him lie upon a firm operating table or sofa. His head should be elevated as much as comfort demands, but his shoulders should lie flat upon the table. A cushion under his sacrum would only complicate and render the work more difficult by raising the pelvis and allowing its contents to gravitate towards the abdomen. Therefore, the sacrum is left at the same level with the shoulders. The legs are drawn up and the heel of one foot locked into the concavity of the other. The trousers and drawers are drawn down to the ankles, and the patient is directed to drop his knees widely apart. He finds no difficulty in so keeping them. This posture also relaxes the perineum considerably.

The preparation of the finger for rectal exploration and treatment is of no small moment. The speaker said he formerly used soap; then thin finger-stalls; then short condoms to protect the finger. None of these proved satisfactory;

the fecal odor penetrated the soap; it was stripped down over the finger-stall or condom and soiled the whole hand. For over a year he had been using flexible collodion, which had proved an ideal protection for the finger and in no wise obtunded sensation. Furthermore, if carefully applied, it formed a thicker coat in the subungual space, and at the nail-bed, the very points most difficult to free from the fecal odor.

After the flexible collodion has thoroughly dried upon the finger, it is lubricated. For this purpose he preferred lubrichondrin, introduced to the profession by our honored colleague, Professor Bangs.

The manner of inserting the finger is of great importance, too. Care should be taken not to drag upon the hairs about the anus, lest the at best unpleasant work be rendered painful as well. The finger should then be directly gently inserted, and not with the gyrating motion usually recommended.

While these details might seem trivial, they appeared to the speaker worthy of consideration, with a view to rendering less repugnant and even painless this method of examining the urethral adnexa. Many errors would be avoided thereby. He needed but allude to the fact which Wossidlo made evident, namely that fully 94 per cent. of gonorrheas invade the prostate; Wossidlo uses this observation from his large experience to emphasize the law that no gonorrheic should be dismissed until rectal examination has shown the prostate and seminal vesicles free from disease.

The speaker said he was taking up the section's time in an attempt at discussing a paper he had not heard. He looked forward with pleasurable anticipation to the day when it would be published, so that he might derive from it the instruction that was always welcome on so important a subject.

DR. CHETWOOD, in closing, said in regard to the tube: Dr. Guiteras had shown a very good tube—one which he had no doubt was fully as satisfactory as his own. He thought that the indication in the use of the treatment was to get heat and moisture in contact with the prostate and the region of the seminal vesicles. He spoke principally of the chronic conditions. Theoretically, there might be some advantage in a tube with a concave opening to apply the current directly to the convex surface of the prostate or vesicle during attacks of prostatitis or of seminal vesiculitis, but only theoretically. The purpose was to raise the temperature of the fluid used to a considerable height, and it was necessary to fill the rectum to a certain extent so as to get the contact of the fluid not only with the prostate itself, but with all the parts in the immediate vicinity.

In regard to the advantage of an impact directly upon the prostate, he had experimented to a certain extent with that by placing a condom or something akin to it on one end of the tube and bringing the impact directly against the prostate and vesicles. His experience had taught that best results were obtained by the application of heat generally diffused through the parts in the region of the lower pelvis. He thought the principal requirement for the successful accomplishment of this treatment was to get a continuous flow of the fluid used.

He had experimented a good deal with tubes and found that the trouble with the Kemp tube was that the large slots in the side seemed to catch in the mucous membrane of the rectum and to tear and irritate. His tube had transposed the Kemp tube in that the water entered from the side instead of the end. It had on the end a very large opening, affording ample provision for the direct reflux of the fluid. He found that a continuous flow of hot water was thus obtained in most instances, and when the fluid was forced up the bowel it was likely to be the fault of the patient.

In some corpulent subjects he thought the question of position was important in the treatment as well as in the examination. On account of the weight of the intestines, the knee-chest position, with the chest just as near to the surface of the table or lounge as possible, was sometimes more effectual.

In regard to the nature of the fluid used, perhaps it was rational to use a normal salt solution in irrigating, and he had sometimes used it, but could not speak whether or not it was any more efficacious than plain water.

He believed that small quantities of medicinal solutions injected through a small rectal syringe were beneficial in certain cases, notably in the more acute than in chronic and infiltrated conditions.

In regard to Dr. Pedersen's questions he would answer it by repeating what his paper stated, that for the existence of spermatorrhea pure and simple it was only necessary to have the spermatic element in the urine or in the urethra at a time other than following an emission, and he thought it was likely to coexist at times as a complication of chronic prostatitis, and he had frequently found it so, just as prostaticorrhea also was found, and that he tried to make clear the distinction between prostaticorrhea and prostatitis. He thought these conditions were often confounded in the books and that the term prostaticorrhea was used where prostatitis was intended.

In regard to the question raised by Dr. Lapowski, of bicycle riding, if he was competent to answer that question, he thought, as he reverted to the time when bicycle riding was more rampant than now, that of the great many bicycle riders and men who had urethral troubles, he had come in contact with comparatively few in which the causation seemed directly applicable to the riding of the bicycle. He personally was inclined to believe that when a man was affected in his prostate by bicycle riding, that it was better for him not to ride at all, as in such a case even a moderate amount of riding was likely to maintain the condition in the prostate.

In regard to the use of the irrigation as mentioned by Dr. Swinburne in acute troubles, he thought that the indication for heat here was sometimes just as strong, perhaps, as in the chronic; but he generally depended upon sitz baths and the like for obtaining the heat in acute conditions, because, while it might benefit, he thought the traumatism induced by the introduction of the tube was to be avoided in acute troubles.

In regard to the protection of the finger during examination, he had not used the method suggested by Dr. Valentine with flexible collodion. He generally used a finger-stall, and did not find that the constriction of the finger interfered with the sense of touch. He used a very light finger-stall, the same kind as in doing a laparotomy, and did not find it interfered.

Selections.

CUTANEOUS DISEASES.

Observations of Erythema following the convalescent period of pneumonia after grip.—ANTONY (*Gazette des Hôpitaux*, 1899, p. 445).

Cutaneous manifestations in the end of an attack of influenza are of rarer occurrence than in the early period of the same disease. The author gives two

histories of a scarlatiform eruption and indurated erythema respectively taking place at the end of a grip attack. In both cases the urine was normal and no cause of the eruption could be traced to the drugs prescribed during treatment. The author examined the blood around the indurated erythematous patches and found two kinds of staphylococcus aureus and flavus and the fact is brought by him as proof that the eruption is rather due to secondary infection than to the bacillus of the grip.

GENITO-URINARY DISEASES.

Kraurosis Vulvæ.—A disease of chronic inflammatory nature and characterized by cutaneous atrophy with marked shrinking and contraction of the vaginal orifice. T. M. BALDY and H. L. WILLIAMS, (*Amer. Jour. of Med. Sciences*, Vol. 128, 1899, p. 528).

Basing their description upon a clinical and microscopical study of one case and upon a scholarly review of its literature, the authors show a picture of the disease in all its known phases.

The disease occurs rarely. It has not a striking clinical picture. The first symptoms noticed are usually those characteristic of pruritus, which consist of an intense and more or less progressive itching and burning of the vulva. The skin is frequently discolored, and small red spots appear on the surface. Some time after these symptoms are noticed, a peculiar shrinking of the superficial tissue of the vulva begins to take place. Discolored patches appear which are hyperesthetic. The skin becomes dry and whitened and often covered with a rough and thick epidermis.

The disease usually affects the tissues of the labia majora, the nymphæ, the area about the clitoris and urinary meatus all become more or less involved, while the skin about the anus is frequently also taken in. As the disease advances the small labia gradually disappear, fusing with the labia majora, and the skin becomes shiny and drawn smoothly over the shrunken clitoris, which has apparently retracted and is now only indicated by a small depression instead of a prominence. A sensation of drawing and shrinking of the vulva is usually experienced, and the vaginal orifice becomes gradually narrower and more and more contracted, and all sexual intercourse becomes a physical impossibility. When this condition has been reached the pathological process is arrested, the subjective sensation of shrinking passes away, and the symptoms of pruritus are no longer experienced. But the shrunken and contracted vaginal orifice still persists and is never spontaneously restored.

Various causes have been advanced as factors in the etiology of the disease. Many writers consider gonorrhea as a potent factor. The authors consider that the cause is a local one, and recognize the etiological bearing of pruritus, which by inducing scratching, sets up a chronic inflammatory condition with the formation of cicatricial tissue in the deeper layers of the derma and subcutaneous strata. Outside of pruritus there is some hidden impulse which causes further changes than ordinarily take place with symptoms in this disease. This element may be constitutional or local, and, according to the authors, the topical presence of micro-organisms, which finding an entrance through the cracked skin evolve a chronic inflammation, is a potent factor in causation of the disease.

Curative treatment consists in the total removal of the affected parts. Palliative remedies, such as carbolic acid, cocain, solution of neutral acetate of lead in glycerin, afford only temporary relief.

Therapeutic Reports

This department has been opened for a free discussion of the merits of preparations offered for the use of the profession.

A NEW URINARY ANTISEPTIC AND SOLVENT.

BY W. H. SEWARD, M.D.

The principle of the disinfection of the urinary tract through liberation in the urine of formaldehyde has been established within a short time on a firm basis. It has been shown to be of service both in prophylaxis, before operation and in treatment of various infections and urinary deposits, among the former typhoid cystitis, the cystitis of prostatitis, pyonephritis, pyelitis, and chiefly among the latter, phosphaturia. This medication of the urine through the mouth has its limitations; no method or drug can ever become a panacea for all forms of disease in any set of organs. It has been found that unless there is contamination with other organisms such as the colon bacillus or pus cocci, the administration of formaldehyde salts does not materially benefit tuberculosis or gonorrhea in its acute stages. When the latter process subsides, however, and other flora appear and give rise to cystitis, formaldehyde in the urine has an admirable effect.

Of the salts offered to the profession, the most recent is the ammonium formaldehyde, known commercially as cystogen. In addition to doing its work

well, it has the merit of comparative cheapness. The dose is from five to seven and a half grains (one gram) two to four times daily. It may be given in tablet form or in powder dissolved in hot water after meals. The following cases, taken at random, serve to illustrate its action in several of the conditions in which it is indicated.

CASE 1. *Cystitis of Long Standing in a Prostatic.*—Man, aged 65. He had been a sufferer from prostatism for eight years, and had been operated on by the suprapubic route for stone, a fistula resulting. He had entered on catheter life some years since, and in spite of its use four times a day, was troubled with dribbling of urine. The residual urine amounted to 2½ ozs. and catheterization was done with difficulty. The bladder had long since been infected, doubtless by dirty instruments, the urine was vile smelling and tenesmus pretty constantly present. He was often obliged to attempt emptying his bladder as often as twenty times in the night. Cystogen was administered in tablet form and at the end of a week his condition was somewhat ameliorated. The urine was clearer and not so offensive; in two weeks turbidity had nearly disappeared and the odor gone. The prostatic symptoms, except tenesmus, persisting, he was ordered into hospital for rest, as it was extremely impro-

able that anything in the way of operation would benefit his condition. The action of the formaldehyde salt was noteworthy in view of the constant passage of catheters, the open fistula and the septic condition of the whole urinary tract.

CASE II. *Bacteriuria*.—The patient had had a slight persistent discharge, consisting of epithelium, a few pus cells and millions of cocci and short bacilli, for two years. By the two glass test it was discovered that the condition had entered the posterior urethra. In addition to nitrate of silver instillations and irrigations previously employed anteriorly, he was put upon cystogen tablets (5 grs., 4 i. d.). The condition began to improve at once and soon was entirely quiescent. Treatment being intermitted, the bacteria and discharge reappeared but subsided on renewal of the combined treatment.

CASE III. *Phosphaturia*.—The patient had reached a subacute stage of gonorrhea following a troublesome acute attack and showed a few threads in the first glass of urine. Accordingly, he absented himself but returned shortly announcing that he had pus in his urine. It was only a phosphatic cloudiness

which permanently disappeared after 24 hours administration of cystogen (four doses).

CASE IV. *Post-gonorrheal Cystitis*.—The condition arose some three years after infection, during which time the man had not been free from symptoms, chronic urethritis, prostatitis and vesiculitis. They were slowly improving when bladder symptoms, frequency and slight pain on urination with turbid urine appeared, infection occurring probably from prostatic material expressed by rectal massage. Cystogen was given in the usual way and resulted in gratifying improvement. It is now administered as a routine measure when massage is to be employed. Previous to the administration, the patient complained of vague pains about bladder region which have not since recurred.

CASE V. *Post-gonorrheal Cystitis*.—This case differs from the last only in having come on very shortly after disappearance of gonococci from the urethra. It should be said, however, that protargol (1 per cent.) was used in the deep urethra in addition to the cystogen, but improvement was no more rapid than in Case IV.

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Original Communications.

IMPERFECT OR DEFICIENT URINARY EXCRETION AS OBSERVED IN CONNECTION WITH CERTAIN DIS- EASES OF THE SKIN.

BY L. DUNCAN BULKLEY, AM., M.D.,

Physician to the New York Skin and Cancer Hospital; Consulting Physician to
the New York Hospital, etc.

THE relation between the skin and the secretion of the kidneys is a matter of every-day observation in general medical practice. All are familiar with the temporary changes in the urine which may take place from a chilling of the surface, and all are equally familiar with the relief given to congested kidneys by free diaphoresis.

The converse, however, has not been as freely recognized and known, and the relations of the kidney secretion to the integrity of the skin and its functions have not been as clearly demonstrated; nor, indeed, can this be expected until more data have been collected.

It is with a view of contributing to the subject that I wish to present a study of two thousand analyses of the urine of skin patients, which have been made in my office during the last ten years, mainly by my associate, Dr. H. H. Whitehouse, to whom I am also indebted for much laborious effort in their subsequent compilation and analysis.

I may state that these urinary analyses were not made with any view to such a study as the present, nor to demonstrate any particular point in medicine, but simply in the ordinary run of my private cases, in order to better direct their treatment.

Nearly twenty-five years ago the present writer called attention to "The Relations of the Urine to Diseases of the Skin,"¹ giving analyses of over three hundred specimens, relating to a hundred and more patients, and since that time he has constantly employed urinalysis as an efficient aid in the understanding of the general physical condition of many of those exhibiting disease on the skin. During the earlier years the analyses of the urine related mainly to the specific gravity, acidity, albumen, sugar, and microscopic elements; but for the last four years they have been much more complete, including urea, the determination of the percentages of the various salts of the urine, also observations as to indican, urobilin, etc., as will appear later; nearly a thousand of these later, very complete, analyses have been made.

In most instances analyses were made of two specimens at each time, one of the urine passed on retiring at night, and one of that passed on rising in the morning; in some instances there was an analysis of a sample of the total urine voided in twenty-four hours.

It will be observed that the title of the paper refers to "imperfect or deficient urinary excretion," and not to actual disease of the kidneys, and our study relates rather to functional derangements of the urinary secretion, many of which are quite within the limits of moderately good health. Indeed, it is a little remarkable how very seldom there has been found real kidney disease, manifested by albumen, or renal casts, or glycosuria, although all these features have been diligently searched for. Our studies, therefore, relate mainly to kidneys not organically diseased, and fortunately so, for the results of our therapeutics.

But a consideration of the changes which are found in the urine from kidneys not organically diseased may often be of the greatest importance in regard to the life and health of the patient, as indicating the manner in which the processes of assimilation and metabolism are carried out; and in this way I regard them of the greatest value in connection with the proper care of patients affected with many diseases of the skin.

It is understood that I do not claim that the urinary changes to be spoken of are the direct cause of any of the diseases referred to; but experience has shown that they do enter as a factor in the proper un-

¹ *Archives of Dermatology*, October, 1875.

derstanding of the physical condition of the patient, and are often directly associated with exacerbations in the skin trouble. It is also to be understood that these alterations in the urinary secretion are not generally to be considered as evidences of faulty kidney action so much as of errors of metabolism in the system, often dependent upon disorder of the stomach, liver, or other organs connected with digestion and assimilation.

Although the kidneys have undoubtedly independent secretory powers, they must in the main be looked upon largely as filters, whose office is to remove from the blood-current the products of metabolism, or effete matter, whose longer retention is injurious to the system; and in the character of the secretion we discover the manner in which the life processes of the body have been carried out. If the blood which comes to the kidney has not been properly prepared, if antecedent processes of assimilation and disassimilation have not been properly carried out, the secretion from the kidneys cannot be such as belongs to perfect health. And it is here that the relation between the kidney secretion and certain diseases of the skin becomes of interest and importance; for it cannot be denied that a proper condition of the blood is necessary for the proper nourishment of all portions of the body, including the skin.

It is recognized, of course, that there can be very great variations in the quantity and quality of the urine, which are quite within the limits of fair health. It is also recognized that errors in the action of various organs often adjust themselves spontaneously. It is recognized that in many instances the faulty condition of the urine found is only the effort of nature to rid the system of imperfectly elaborated material. But with all this, it is believed that the blood conditions thus shown are of importance as indicating the state of nutrition and of the skin; and clinical experience has shown that certain lesions on the skin do vary more or less, according to the condition of the urine.

The manner in which systemic derangements exhibited by disordered or deficient urine operate in influencing changes in the skin, is not as yet by any means determined. I cannot wholly subscribe to the doctrine of Haig, that they are due to capillary changes excited by the presence of uric acid circulating in the blood. While many of his clinical observations in regard to the concurrence of certain symptoms in various organs are most excellent, the researches of others seem to point to some doubt in regard to the actual circulation of free uric acid in the blood; but the fact remains that with deranged urine we do frequently have changes in the skin as well as in other organs, which pass away when the urine shows that these systemic derange-

ments have been corrected, whether by medicine, diet, hygiene, or even by the recuperative processes of nature.

Imperfect and deficient urinary secretion can be manifested in many different ways, and all of them should be appreciated and considered in order to rightly estimate the relations which they may bear to diseases of the skin or other organs. Not only is it important that the chemical ingredients of the urine should be in the proportions belonging to health, but it is also essential that the individual should pass them in sufficient quantity; and this is a matter which is often not attended to. In numbers of my patients who stated that they passed sufficient urine, it was found on actual measurement that the quantity was not one-half the normal amount; and continually it was found that the daily excretion of solids was far below the normal standard, occasionally not more than one-half the proper amount was being passed.

In recent papers¹ I have called attention to this deficient kidney excretion, and have given a table for the calculation of the solids which should be passed in health for different body weights of women, which is as follows:

Relation of body weight of women of average health to total daily secretion of urinary solids:

Weight, pounds.	Total urinary solids, grains.	Weight, pounds.	Total urinary solids, grains.
90	500	135	815
95	535	140	850
100	570	145	885
105	605	150	920
110	640	155	955
115	675	160	990
120	710	165	1025
125	745	170	1060
130	780	175	1095

These figures for women do not represent much active exercise, and with increased bodily exertion the solids passed should be materially more; men excrete about one-tenth more than women. There are also less urinary solids passed with advancing age, and about 5 per cent. may be deducted for each ten years after forty.

¹Transactions Medical Society of the State of New York, 1897; *Journal of the American Medical Association*, January 8, 1898; *New York Medical Journal*, November 5, 1898.

It is not a very difficult matter to carry out the plan of learning the total daily excretion of urinary solids, if it is rightly arranged. I have long had it done daily in many instances, and in others at stated intervals. An ordinary two-quart mineral-water bottle is used, with a strip of paper or adhesive plaster on the side for a scale. This is graduated by filling the bottle from a two-ounce measure and marking off each two ounces; the space for the intervening ounce can be divided by the eye. A glass funnel is kept in the mouth of the bottle, by means of which the urine can be poured into it as passed. The index is read off, the amount recorded, and the bottle emptied at the same fixed hour every day, a sample of the whole being sent to my office, with the statement of the total amount passed in the twenty-four hours.

From the specific gravity of the sample the total amount of solids passed in the day is easily estimated by Haine's modification of Hasser's methods, which is as follows: *Multiply the last two figures of the specific gravity of the urine by the number of ounces voided in twenty-four hours, and add 10 per cent. to the product.* Thus, if the amount passed in twenty-four hours was 36 ounces, and the specific gravity 1.021, it would be $36 \times 21 = 756 + 10 \text{ per cent.} = 831$, the number of grains of solids in the whole amount. By comparing this with the table it can readily be ascertained if the amount is above or below the normal standard for the body weight of any patient.

But it is also very important that the *actual quantity* of the urine should be correct; for, even with a proper daily excretion of solids the life-processes are not properly carried out when the quantity is scanty and the specific gravity high: many symptoms of ill-health will often be found to disappear when there is a free flow of urine, of an average normal density. This has been repeatedly observed in many of the cases forming the basis of this study. The specific gravity and acidity of the urine are thus often of the greatest value as indications of the manner in which metabolism is carried out in many patients with diseases of the skin. The same is true with regard to observations as to the urea, indican, etc., and microscopic sediments also often furnish most valuable indications, as all recognize.

Very much could be said in regard to the possible or probable effects resulting from different and special changes in the composition of the urine, which would lead far beyond the proper scope of this paper. We are not yet in a position to indicate the exact relation of them to disease on the skin, and more observations are needed to enable positive deductions to be made. But of this I am positive. By means of them there may often be detected errors in the processes of nutrition, which might otherwise escape recognition, and a little practical expe-

rience will often enable one to utilize the knowledge thus gained very effectively in the management of certain diseases of the skin.

The two thousand urinary analyses which form the basis of this study were made upon the excretion from 569 patients, 265 males and 304 females, of all ages. They relate to patients with most varied diseases of the skin, over fifty different affections being represented. In many instances but a single examination was made, of the morning and night specimens, because of some clinical indication or thought of a possible urinary derangement. In many other instances repeated analyses were made, often extending over long periods, during treatment, and the results of remedies observed.

The specific gravity varied from 1.045 to 1.003; and of 1816 analyses 463, or over one-fourth of the whole number, gave a specific gravity of 1030 or over, while there were large numbers with a recorded specific gravity of 1.026 to 1.030. There were but 51 specimens with a specific gravity of 1.010 or under.

The reaction of the specimens varied greatly. With an oxalic acid equivalent in 100 c.c., a percentage of .3 being about normal, the specimens ranged from the highest, .6804 in a case of eczema, to neutral or even alkaline in rare instances. While high grades of acidity were very common, there were also many specimens far below normal, and many striking contrasts between the morning and evening specimens were observed.

It is surprising that albumen was found so seldom, it occurring in but 62 specimens, relating to 26 patients, in the entire 1816 complete analyses. In a number of instances where the urine was below 1.010 there was no albumen, several of these having a specific gravity of 1.003 and 1.004. Nor was sugar often found, but 36 times, relating to 15 patients; even several specimens at 1.044 and 1.045 contained no sugar.

The alterations in the urine were largely due to variations in the organic salts. Thus, oxalate of lime was recorded in 460 specimens, uric acid in 269, and the urates in 240 analyses.

The amorphous phosphates were the most frequent deposit, being recorded 717 times, relating to 271 patients; the triple phosphates were recorded 118 times, relating to 55 patients. Many of these examinations belonged to one syphilitic patient having obstinate cystitis; in some instances they were due to decomposition, but were occasionally found in fresh specimens.

The urea varied in quantity much less than would be expected. Of 531 specimens in which this was accurately determined, the percentage varied from 4 to .4 per cent., the normal being about 2 per cent. In

one case of seborrheic eczema the night specimen gave .04 of urea, with a specific gravity of 1.029, and in another case of the same trouble the urea stood at .04 and .032 respectively, with a specific gravity of 1.039 and 1.035: in the former there were amorphous phosphates, and in the latter urates and uric acid, with amorphous phosphates in the morning specimen. In 353 specimens the urea stood at 2 per cent. or over, and in 178 specimens, or one-third of the whole number, it was below the normal amount.

The phosphates and chlorides were both found to vary greatly on quantitative analysis. Thus in but 16 per cent. of the analyses were the phosphates normal or above, and in but 8 per cent. were the chlorides up to the normal standard. The sulphates are the most stable constituent, rarely varying from the 1 per cent. found in normal urine; once they reached 2 and 2½ per cent. in a number of specimens with very high specific gravity, from a case of hyperidrosis: they were diminished to one-half the normal amount in several specimens with low specific gravity from patients with acne and eczema.

Coming now to the urinary changes observed in connection with special diseases of the skin, as mentioned before, our analyses relate to patients with some fifty different diseased conditions: many of these are of no relative importance in the present study, while others present most interesting and valuable data. Those pertaining to some of the more important diseases will be considered.

Eczema, of course, comes first on the list. There were 924 analyses relating to 316 patients with eczema, 183 males, 133 females, almost all of them adults, of various ages. A glance at the tabulated results of the separate analyses exhibits a curious and tangled picture: while some few specimens represented healthy urine in all particulars, there were really very few where gross and radical departure from a normal standard were not observed.

Not only were many found with very high specific gravity, and many very low, but very great discrepancies were observed between the morning and night specimens: the highest specific gravity observed was 1.045, in which the urea was double the normal amount, with abundance of urates and uric acid. The average specific gravity of 885 specimens was 1.023.

The urea and chemical constituents showed the very greatest variations. While the average of 145 analyses gave an exactly normal proportion of urea, it was relatively below the proper proportion to the average of the total solids, which called for an average of .027. There were a number of specimens where it was very high, even up to .041, the normal being .02, but there were also very many specimens

where it was below 1 per cent., in one instance even down to .002.

The urinary salts showed very great and strange variations, and no figures can express the conditions found, so irregular were the proportions in various specimens. But an average of 50 analyses showed the chlorides to be markedly diminished, 9.5 per cent. in place of the normal 16 to 18 per cent. The phosphates also were diminished, giving an average percentage of 8.4 in place of the normal 12 per cent., while in these very specimens amorphous phosphates appeared on microscopic examination 28 times. This shows that the finding of phosphates microscopically does not indicate an actual excess in the urine. The sulphates were slightly in excess, 1.12 per cent. (normal 1 per cent.).

The disparity between the total amount of solids in many specimens and the urea and chemical constituents, as shown by analysis, was often very striking, and can only be explained by a large amount of uric acid in solution, which was not tested for.

In looking over the compiled tables of these analyses one is struck with the universality with which crystalline deposits were discovered by the microscope. As already mentioned, the amorphous phosphates were a very frequent sediment, while uric acid, oxalate of lime, and the urates were constantly observed. In almost every one of the 885 analyses one or other, or often several of these microscopic elements were recorded.

Acne is a disease constantly associated with disturbances of assimilation, and our analyses of the urine showed abundant evidences of these errors. There were 503 urinary analyses relating to 93 patients.

The specific gravity varied from 1.044 to 1.004; and the average gravity of all was 1.025. There were very many specimens at 1.030, but sugar was not present in any, the increased weight being due to salts. The urea varied from .039 to .004, but was more commonly above normal; the average of 108 analyses gave .022.

As in eczema the chlorides and phosphates were below normal; the former gave 8.65 per cent. (16-18 normal), the latter 7.7 per cent. (12 normal). The sulphates were slightly increased, 1.2 per cent. (1 per cent. normal). As in eczema, it is difficult to see the elements contributing to the increased specific gravity. Almost all the specimens exhibited microscopic evidences of derangement, in the way of phosphates, uric acid, oxalate of lime and urates.

Pruritus is accompanied by urine of very different character, as shown by 98 examinations of specimens from 19 patients. The specific gravity varied from 1.036 to 1.008, the average being 1.024. The acidity was considerably above normal, and the urea averaged 2.5 per

cent. The amorphous phosphates were found microscopically in almost all the specimens, with uric acid, oxalate of lime and urates in a few. One specimen contained a trace of albumen, and, strange to say, sugar was not recorded in any.

Psoriasis is represented by 67 examinations, relating to 26 patients. The specific gravity varied from 1.040 to 1.011, the average of all the specimens being 1.026. The acidity was high, and oxalate of lime was a very frequent microscopic object, being recorded 28 times, and uric acid and urates 17 times. The urea was a little above normal, averaging 2.4 per cent.

The remainder of the analyses related to too few patients in each disease to admit of any general averages being made, but the individual specimens presented very many interesting features, some of which may be mentioned.

Thus in one case of *alopecia arcata*, twenty-six urinary analyses were made, extending over a considerable period of time. The urine was persistently very acid, and of a high gravity, seldom falling below 1.030 and with an average of 1.031: the urea was also very high, yielding an average of almost 3 per cent: there were constantly microscopic deposits of phosphates and oxalates, with occasional uric acid. In several cases of *erythema* the urine was of a high average specific gravity, with almost constant presence of uric acid or amorphous phosphates microscopically. In nine cases of *furunculosis* the average specific gravity was very high, but the acidity was very low: the urea averaged 2.4 per cent. The chlorides, phosphates, and sulphates varied greatly in the specimens analyzed. In several cases of *lichen planus* the specific gravity of the urine averaged high, but the acidity was low. In three cases of *urticaria* the same was observed: in one case urates were found microscopically in a neutral urine, and in another amorphous phosphates, with the same reaction.

In reviewing again the data obtained from a study of these tabulated analyses, one is disappointed with the actual results as to positive facts connected with the condition of the urine in the different diseases mentioned; for it must be conceded that no very sharp lines of differentiation can be drawn between them.

But, on the other hand, these results are about what was expected, for, as stated at the outset, there is no claim made that any particular urinary changes can be yet demonstrated to have any direct and immediate connection with any particular skin lesion. The object of this study is to call more attention to the fact than is usually granted, that in many patients with skin diseases there are errors of nutrition and metabolism which must have something to do with impairment of the

integrity of the skin. This evidence of deranged assimilation and dissimilation appears abundantly in the tabulated sheets of analyses, for an inspection of them shows that exceedingly few of the analyses represent the urine of health, in all respects: while many of the individual analyses exhibited evidences of gross departure from healthy urine.

It would undoubtedly have been better if the specimens analyzed could always have been samples of the urine of the entire day, and if the total daily excretion was always known the figures given would then have been of relatively more value. But as this is often infeasible in the ordinary run of practice, this study was made from urine as ordinarily tested by the physician, the morning and night specimens.

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CATHETERIZATION OF THE HEALTHY URETER THROUGH AN INFECTED REGION.¹

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EVER since the invention of the ureter cystoscope one of the principal uses to which this wonderful instrument has been put has been the catheterization of ureters which were supposed to be healthy in order to assure ourselves that the urine from the corresponding kidney would indicate absence of disease in this organ also. There is a strong tendency for us to regard this procedure as a harmless one though the catheter in its path traverses regions known to be infected, and we thus seem to place catheterization of the ureters in a position not covered by the rules which govern the other fields of surgery. While I admit that, judging from the very few reported cases of infection, the procedure would appear to be an almost perfectly safe one, it is my belief that we should not depart from a fundamental surgical principle without careful consideration of its application to the case in point besides the mere reported clinical facts.

The possibility of infecting the kidney from below without mechan-

¹ Read before the Genito-Urinary Section of the New York Academy of Medicine, January 9, 1900

ical interference with the ureter is universally accepted. Whether or not we believe that tuberculosis may descend from one kidney to the bladder and thence ascend by way of the ureter to the other kidney, the clinical fact that gonorrhea may involve the entire urinary tract from the point of original infection at the meatus is, I believe, beyond dispute. The occurrence of renal suppuration as a result of infection from below in the case of stricture of the urethra or hypertrophy of the prostate is also well recognized. Infections of the chronic or the less acute varieties probably progress very slowly, and, because of the absence of symptoms due to tension, may have existed for quite a long period before they are recognized.

Infection of the bladder, the ureter and the renal pelvis seems to depend not only on the presence of bacteria but on the existence of some disturbance of nutrition as well. This is the conclusion reached by the French school of investigators, and it seems to be supported by numerous clinical as well as experimental observations. Max Melchior, of Copenhagen, in an interesting series of essays on cystitis and urine infection, states that he has tried to produce infection of the urinary tract by means of the injection of pure cultures of various bacilli, but failed to do so in every case unless the tissues were mechanically, chemically, or thermically injured at the same time. His experiments were performed on rabbits, and he found that it was possible to inject the most virulent microbes into the urinary passages without causing disease or even apparent discomfort. The bacilli lived, and, for a time, reproduced, but were eventually washed out by the urine current. Bacteriuria without true infection is, also, not uncommon as an observation in the human being. Melchior found that ligating the penis of the rabbit in such a manner as to greatly hinder the flow of urine invariably determined infection in the presence of pathogenic germs. He also discovered that traumatism of the mucous membranes was in the presence of bacteria followed by true infection, and that sudden thermic changes brought about by filling the bladder alternately with hot and then with cold water predisposed to infection when pathogenic bacteria were immediately afterward injected. Ligating the ureter after having injected a culture into the renal portion was followed, as one might imagine, by fatal infection. Melchior also calls attention to the fact, observed by others as well, that bacteria may exist in great numbers in the urine in spite of the fact that there has never been instrumentation.

While these experiments demonstrate the difficulty of purposely infecting the urinary passages without traumatism, interference with

drainage, or some other insult as a coincident factor, they also show that in the presence of such disturbance infection will, as in other organs, occur. Now, the danger of injuring the lining membrane of the ureter is a real one, and such injury occurs very commonly in the form of minute lacerations or abrasions, as is shown by the fact that the first urine collected from the catheter is apt to be bloody. Indeed, we are warned for this very reason not to draw conclusions from the examination of the first drachm or two of urine. Rarely there may be traumatism of a more serious nature due to the kinking of the catheter, which may not be appreciable by transmission through the instrument to even the most skilled hand which would in an instant detect the slightest fault in the position of a filiform guide within the urethra. Friction in the urethra or even in the cystoscope itself is partly responsible for this. The danger is greatly increased if the patient is in narcosis.

We have, then, the distinct possibility of traumatism in catheterization of the ureter and the necessity for absolute asepsis is, therefore, many times emphasized.

Now, in by far the greater number of cases in which catheterization of the healthy ureter is practised disease of the other kidney or of the bladder is present, and the region about the urethral orifice, not to mention the urethral mucous membrane, is anything but sterile. Efforts at disinfection are, of necessity, incomplete: first, because it is not possible actually to disinfect mucous membranes, and again, because there is constant soiling from the other ureter. The danger is, theoretically and, perhaps, practically, minimized when the catheterization can be done by the dry method of Kelly in which the urethral catheter need not touch any tissue except that at the mouth of the ureter itself. Even here, however, there is a distinct possibility of infection, and, too, the method is hardly practical in its application to males.

Another danger in passing an instrument into a ureter which is supposed to be healthy is that latent disease may, after all, be present, and may be lighted up by the manipulation. A case will illustrate the point. The patient was a man of forty, who had had repeated attacks of gonorrhea with subsequent deep stricture which had been dilated, and, later, cut through the perineum. There had been suppurative orchitis as well. Having recovered from these various disorders, he began to complain of a frequent desire to urinate, accompanied by pain and discomfort in the right iliac region and loin. Intermittently the urine contained considerable pus, and some blood, but no renal elements. It was examined for tubercle bacilli, but none found. There was no fever, and the man worked at his trade, that

of a shoemaker, being kept comfortable by means of urotropine and copious draughts of water. With the idea of exploration I put a filiform guide into his right ureter, using Albarran's cystoscope with cocaine anesthesia. On attempting to slide the catheter over the guide I found that it became arrested at a point about three inches above the mouth of the ureter, all efforts to insert the instrument further causing pain. I therefore desisted and sent the man home. Two days afterward he came to my office with the usual signs of severe sepsis. His temperature was high, more than 103° , if I remember rightly, he had emaciated to a remarkable degree in so short a time, and he complained of severe pain in the right iliac region. There had been no urinary symptoms. On palpation I felt a sausage-shaped tumor lying in the direction of the right ureter in the iliac fossa. It was extremely tender, and there was one point in particular, corresponding with what is known in appendicitis as McBurney's point. In short, without a history, and taking into account the objective signs alone, one would have been amply justified in operating upon the man with the diagnosis of acute appendicitis with adhesions forming the usual longitudinal tumor about the appendix. Naturally, my diagnosis was an inflamed ureter with a deposit of lymph around it. The patient was sent to Mt. Sinai Hospital, where, under poulticing and free diuresis there was convalescence in two weeks. This happened about a year ago, and the man is at present quite well so far as his symptoms are concerned. At rare intervals he has some pain and discomfort, which he relieves with urotropine. It is probable that an exacerbation may occur and render surgical treatment imperative.

This case is, naturally, not cited as an example of the danger of instrumentation in the healthy ureter, but merely to show what might occur from the irritation of a patch of quiescent and, perhaps, unsuspected disease. I can liken it to nothing more aptly than the administration of bronchial irritants to one who has a patch of dormant tuberculosis in his lung.

The advocates of the catheterization of such ureters as are supposed to be healthy tell us that infection is so rare that it is almost unheard of. Yet, may it not be well possible that infections have occurred which were not reported because they were not recognized? Tuberculosis, for example, is a disease which is sometimes slow to develop. When implanted into an abrasion of the ureter may it not progress so slowly that when it eventually declares itself the true cause is overlooked? All individuals are not equally susceptible, so the fact that infection is not encountered in the majority of cases will hardly warrant our eliminating the possibility of danger to the few.

The value of catheterization of the ureter on the diseased side is great. It is of the utmost importance in arriving at a diagnosis, and it will probably in the future become a more and more frequent help in the treatment of pyonephrosis, hydronephrosis and pyelitis. What, now, is the true value of catheterization of the presumably healthy ureter? It may, indeed, aid in the development of a prognosis. It may assure us that the kidney is present, and may even indicate its functional state. But, after all, its only vital importance is when nephrectomy is contemplated that we may be assured of the presence and activity of the "other kidney." And there is the danger of infecting this organ at the very time when the preservation of its normal condition of health is most essential.

Were there no other possible means of ascertaining the existence and probable condition of the remaining kidney, we should feel that it might be justifiable to take the chances of infection, small as they seem to be. But there are other methods of knowing all that is necessary concerning the "other kidney" when the removal of its hopelessly diseased fellow is contemplated. In some cases the kidney may be unmistakably palpated. When this is impossible the mouth of the ureter may be inspected with the cystoscope and the probable condition of the kidney estimated by the jets of urine which are emitted. If there is hemorrhage so that the fluid in the bladder is hopelessly turbid or if for some other reason the ureteral opening cannot be seen the test by catheterization must of necessity fail also. Lastly, at the time of the contemplated nephrectomy, when the patient is in anesthesia, the operation may be preceded by a small exploratory incision on the healthy side which will permit of the ocular demonstration of the existence of the organ with the loss of but a few moments of time and scarcely any additional risk.

This morning a copy of the *Deutsche Med. Woch.* for January 12th, 1899, was handed to me by a friend. Here there is a report of the proceedings of the Berliner Medicinische Gesellschaft for the 7th of December, 1898, in which occurs a discussion on a paper presented to Caspar. After reading this report carefully I see no reason to make any changes in what I have written. It is of interest that a case of Israel's is here spoken of in which he believed that severe multiple kidney abscess was traceable to the catheterization of the ureter. Landau, speaking from the gynecological standpoint, calls attention to various conditions in which catheterization of the healthy ureter is of value, notably in operations of magnitude about the pelvic organs when previous double catheterization leaving the instruments *in situ* enables one easily to recognize and avoid the ure-

ters. I question, however, even here, whether careful work with the full knowledge of the danger of injuring these structures is not safer than a possible contamination of the healthy ureter. However, since in this instance there is not supposed to be any neighboring infection the matter does not fall strictly within the limits of the present discussion.

Litten notes that since there is leakage of urine into the bladder from the catheterized kidney alongside the ureter-catheter a true estimate of the *amount* of urine secreted by the kidney is impossible. Posner ventures to disagree to a certain extent as to the quantity of leakage, but nevertheless the inaccuracy is manifest.

Finally, Wossidlo remarks anent the catheterization of the "other ureter" in the presence of contemplated nephrectomy that it is by no means certain that the kidney which functionates normally before nephrectomy will continue to do so afterward.

REPORT OF A CASE OF CUTANEOUS ANGIO-SARCOMA.

BY JAMES MACFARLANE WINFIELD, M.D.,
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THE history of the case presented at the October meeting of the New York Dermatological Society, is as follows:

B. R., male, aged 15; born in the United States of Irish parents; boy is undersized, and badly nourished. His father died of pneumonia; mother living, aged 40. One younger sister, living, and in perfect health.

The cutaneous tumor was first noticed in November, 1898. According to the history obtained from the patient it appeared like a wart about as large as the end of a lead pencil. The physician whom he consulted treated the growth for two months without success, and finally excised it. The hemorrhage was considerable; beyond that he suffered no inconvenience. A month later the wart began to grow again, and small, bright red spots appeared around the margin.

Eight months later he consulted me; the appearance at that time is fairly well shown in the accompanying illustration. The growth is situated on the left chest-ball, just below the clavicle, a little to the left of the sternum; it is irregularly ovoid in shape, measuring about three by four inches in diameter, made up of a number (about sixty) of large and small bright red tumors: the larger ones are about as big

as a small hazel-nut, the smallest a mere red speck in the skin; the largest ones are either pedunculated or showed a tendency to pedicle formation; the pedicles eventually become strangulated, and the tumors slough away, a new red growth succeeding them.

The color of the mass gave the impression of a bunch of cran-

FIG. 1.



berries, being purplish-red, except the largest tumor, which was a dirty gray.

A provisional diagnosis of hemangiomas was made, pending a microscopical examination of the diseased tissue.

A large and a small tumor were excised, hardened in alcohol and

FIG. 2.



ether, embedded in celloidin, stained with hematoxylin and eosin.

The sections from the large tumor were useless on account of the necrosis it had undergone before removal. Those from the smaller ones showed masses of cells closely packed together around the ves-

sels, forming long strings, with frequent anastomoses. The accompanying picture was reproduced from a micro-photograph of a slide prepared by Drs. Fordyce and Holder. The specimen was taken from a recent growth, which had been hardened in a two per cent. formaline solution, embedded in parafine. The microscopical appearance of this one resembled those of the earlier specimens; there were numerous large vessels with the same peculiar arrangement of the cells, which were grouped around the vessels as if they were developed in their adventitia. This is the typical microscopical appearance of all angio-sarcomas.

Very little can be said regarding prognosis, for angio-sarcoma of the skin is not of frequent occurrence.

From the microscopical appearance it would not seem as if such growths were malignant; still, from the rapid progress of this one, fears might be entertained of eventual malignancy.

All attempts at treatment have proven ineffectual; in fact, medical or surgical interference have seemed to induce more rapid growth.

I wish to thank Drs. Fordyce and Holder for verifying my microscopical findings; and also Dr. Ezra A. Wilson of the Hoagland Laboratory for the excellent micro-photograph with which I was able to illustrate this report.

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THERAPY OF IMPOTENCE IN THE MALE.¹

BY PROFESSOR I. ZABLUDOWSKI,
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THE subject matter of this paper treats chiefly of the management of cases of neurasthenia originating in the male genital organs. In certain cases the disease may be traced to long courses of local treatment, by bougies, electricity, cold sounds, antrophores, etc.; in others, to interrupted coitus. The patients generally showed a hypochondriacal state of mind, which was worse on the days when defecation was omitted.

The treatment employed consists chiefly of massage of the genital region, using the same methods as in other parts of the body. This is directed (1) to the genital apparatus and neighborhood, and (2) to the spine by means of reflexes and irradiations, (3) the body generally, its vessels and lymphatics, and (4) to the brain centers, giving rise there to certain images.

The technic is as follows: The patient lies on his back. Each testicle is held and kneaded by the fingers of both hands, the epididymis and vas being manipulated at the same time. The testicles are massaged only over half their circumference and never in opposite directions. By observing this rule, one can use strong pressure without pain. After the testicles, the perineum and inguinal regions are taken in hand. With the fingers, alternate pressure and vibration is applied to the bulbous urethra. In hyperesthetic persons it is well to begin at the scrotal raphé and on the inner surface of the thighs in order to divert attention from sensitive spots by a firm hold on the latter.

These manipulations are done as well on the abdomen and sides and form an important adjunct to treatment in influencing the obstinate constipation and frequent gastric and intestinal disturbances. The patient is massaged in the knee-chest position as well as when on back, belly and sides if necessary to overcome constipation. Then follows beating with the closed hand along the lumbar and sacral regions and pressure of the occipital, cervical and intercostal muscles. On the back, vibratory motion is given with both hands simultaneously

¹ Read before Section for Internal Medicine of the 71st Congress of German Naturalists and Physicians in Munich.

one on the sacrum and the other on the neck, particular attention being given to parts where pain is complained of.

Manipulations through the rectum are used only when local changes are manifest about the prostatic urethra and bladder. The right forefinger is introduced, the patient lying on his back with the left knee bent over the right thigh. The physician takes his position on the right side and produces pressure on the prostate from below upward at regular intervals. Lateral pressure on the rectal walls should be avoided, as being irritating. The left hand is placed on the lower part of the belly above the pubes and bimanual vibrations are given to the bladder. By introducing the finger into the anus over the thigh a point of leverage for the arm makes the working pressure sure, and the finger reaches the top of the gland. Movement with resistance of the muscles of the legs, back and abdomen should supplement the massage. Supersensitiveness about the genitals can often be remarked as diminishing after a few sittings, and in a few weeks increased tone of the skin and muscles appears. By extension of manipulations over the belly and thighs, the coordination and association activity of the generative system is promoted.

An increase or decrease of sensibility can be secured by simply modifying the manipulations, and good results come about in paralytic as well as spastic forms of functional derangement. Increased tissue change explains the good results in catarrhal conditions of the deep urethra and adnexa of long standing. Through the new irritations, old associations and habits are broken up by being supplanted. A hypochondriac improves more rapidly without local urethral treatment. "*Nolle me tangere*" is the adage for penis and nates, since an aprodisiac effect is most undesirable. During proper massage, erections do not appear, firm touch preventing sexual excitement. The patient's attention is held by frequent commands to change position, a circumstance which hinders erection under the influence of peripheral irritation. Energetic bowel action with consequent depletion of abdominal and pelvic congestion and decrease of nocturnal pollution is probably chiefly due to the stress laid on the lumbar region, the seat of the center of erection. The idea held tenaciously by most sexual neuroasthenics that the genitals are shrinking, vanishes because of the congestion and the sensation of fullness.

During the six to eight weeks of treatment, cohabitation should be prohibited, and general body exercises within the fatigue limit are ordered, such as walking, cycling, swimming and rowing, by preference,

¹ Zabłudowski's *Bemerkungen zur Massage Therapie in der Chirurgie von Volkmannsche Sammlung Klinische Vorträge*, Leipzig 1899, No. 209, p. 26.

an unusual form. Bed is recommended only in extreme nervousness, and in the latter case there should be a change of surroundings. The body should be sprinkled with water at the room temperature every morning. In cases of weak erection after the cure, greasing with a slightly sticky ointment, vaseline, cold cream, is advisable; in premature ejaculation, others of greater consistence, ungt. paraffin (Germ. Pharm.) lanolin. By this means conductors become unnecessary.

Special Directions.—(1) In cases of pollution, the sleeping arrangements must be changed, from bed to sofa, with a bolster under the feet. In one severe case of over twenty years' standing a remarkable result was effected by directing him to use, at night, in place of the bathing-trunk to which he was accustomed, a condom. The emissions ceased. Beverages at night are forbidden, and the supper hour changed. (2) In cases of spermatorrhea from interrupted coitus, and in cases of prostatorrhea, particular attention is given to the massage of the prostate and abdomen, and the habit replaced by the use (in the woman) of occlusive pessaries. (3) In cases of general nerve disturbance after shock or exhausting illness, general massage is most beneficial, especially on the heart. This massage works in diabetes and obesity as a compensation for a strict dietary regimen. (4) A good prognosis should always be given to men about to marry who are fearful of the sexual capacity, and to married men whose intercourse is obstructed, as by vaginismus. These cases do well. (5) In relative impotence, absence of erection in familiar conditions, a change brings about good results. (6) When there is disturbance in the secretion of urine, particular attention is paid to the prostate, perineum and bladder, and sleeping arrangements are changed. Benefit is sometimes secured by sleeping on some unusual material, such as rubber, leather, or linoleum.

Karl Strasse 8, Berlin.

Society Transactions.

NEW YORK DERMATOLOGICAL SOCIETY.

TWO HUNDRED AND EIGHTY-THIRD REGULAR MEETING, HELD ON NOVEMBER
28, 1899.

JAMES C. JOHNSTON, M.D., *President.*

A Case of Extensive Lupus Vulgaris.—Presented by DR. FORDYCE.

The patient, a man aged twenty-eight years, born in England, had developed the affection at the age of four.

He now has an extensive eruption involving almost the entire face and neck, with numerous patches over the arms, chest, back, etc. He has been treated with the anti-tubercule serum of Dr. de Schweinitz for several months. For a time his improvement was rapid and pronounced, but of late little or no change for the better has taken place.

DR. P. A. MORROW said that he had had an opportunity of seeing this case some time ago, and believed that there had been marked improvement in him since that time. The chief interest in the case lay in the great multiplicity of the lesions. The case also seemed to illustrate certain advantages from the use of serum.

DR. CHARLES T. DADE said that he had seen the case about one year ago and there had certainly been a decided improvement since that time, especially in the face.

DR. G. H. FOX said that he had a photograph of the case taken several years ago, and the lesion had grown more extensive since that time.

DR. SHERWELL said the case was unique almost in the extensive distribution of the lesions. He would have little faith in local treatment here. The only hope, and that would be slight, in his opinion, would be constitutional remedies, of a revulsive and alterative character, as, for example, arsenic and iodids, etc.

Relevant to the subject, and as opposed to the idea of the almost non-curability of lupus, he had had many, very many, apparently perfect results by treatment. No later than yesterday a lady, a school teacher, had appeared at his office, for another trouble, whom he had treated for lesions on nose, scalp, etc., five years since; the cure had been perfect. Curetting and nitrate of mercury were the means employed.

DR. MORROW asked if any one present had observed that lupus of the scalp yielded more easily than lupus of non-hairy portions of the body. He had had a case of an old lady that he had treated for a number of years by the application of a punctate galvanocautery. There had been lesions of the scalp which had yielded very promptly after one or two applications, whereas the lesions on the cheek and side of the face had been very obstinate, although disappearing slowly.

DR. C. W. ALLEN said that the patches which had undergone self-cure were

of interest. Where there existed on the body's surface a single patch the diagnosis from syphilis was not always easy at first glance. He had recently seen a boy of fifteen years with a single patch on the buttock, which had existed as far back as he could remember. It had gradually extended, clearing up in the center, with a white cicatrix such as was shown in the case just presented. The appearances presented at the margin were such as to make it easy to understand how such a case could be mistaken for a spreading serpiginous syphilide.

DR. FORDYCE said that the case was interesting on account of the extent of the disease, and particularly because of the influence of the antitubercle serum, which had seemed to have a marked effect in flattening out the lesions and reducing the color of them during the first two or three months of the treatment. The supply of serum had failed for a few weeks, and then the lesion had begun to spread again. The antitubercle serum was obtained by inoculating horses with the attenuated cultures of tubercle bacilli. It was given hypodermically, and produced no reaction as with the tuberculin of Koch. Dr. Stubbert, of the Loomis Sanitarium, had used it in a great number of cases, and had reported a number of apparent cures. In the case under discussion the initial dose was 5 minims. It had been increased to 40 minims daily, given hypodermically. Dr. Fordyce then showed photographs of two other cases of lupus, in his hospital service, at the same time. They bore a marked resemblance to syphilis. On the thigh of one of them there was a serpiginous lesion resembling a syphilide—indeed, this man had been treated for several weeks with antisyphilitic remedies. Recently a section had been examined, and there could be no doubt about the diagnosis of lupus.

Dr. Fox said that in a long-standing case of lupus vulgaris which had spread upon the neck, and which he had treated for years in a variety of ways without accomplishing much, he had recently tried treatment with liquid air. About one dozen of these applications had been made. The extending border of the large patch had been frozen thoroughly and the treatment had been more agreeable to the patient than any other treatment tried heretofore. It looked now as if the patch might be entirely cured by this method of treatment.

A Case of Tubercular Leprosy.—Presented by DR. J. A. FORDYCE.

A man who had been an inmate of the city hospital for two or three months. He had been born in Sicily, and had had the eruption at the time of his arrival in this country four years ago.

In addition to disseminated nodules over the face, trunk, and extremities he had two nodules larger than peas at the outer sclerocorneal junction, which were encroaching rapidly on the cornea and endangering vision. They had been recently removed by Dr. Peck, under cocaine. Dr. Fordyce demonstrated sections of the removed nodules showing enormous numbers of lepra bacilli. The patient had improved in a remarkable manner under large doses of chaulmoogra oil internally and ichthyol externally.

DR. MORROW said that those lesions were described by authorities who had an opportunity of seeing a great many of these patients, as being very common, occurring in from fifty to sixty per cent. of all cases. Of course they led in time to perforation of the cornea and destruction of the eyeball. The effect of the remedies employed had been very satisfactory, and there was a marked improvement since he had seen the case a few months ago. The question of course

arose as to how much of this was due to the remedies, and how much to the rest and change in diet.

DR. FORDYCE said that Dr. Peck intended to touch the recurrences on the conjunctiva from time to time with the Paquelin cautery.

A Case of Pityriasis Rubra Pilaris.—Presented by DR. J. A. FORDYCE.

The history given by the patient is that about three years ago the legs were swollen, red and afterwards the redness extended over all the body. About the same time the palms and soles became thickened, fissured, and painful. The lips, ears, and eyelids were also swollen and painful.

He now presents some characteristic follicular lesions about the wrist and forearm. The most pronounced feature of the affection, however, is the marked thickening of the epidermis covering the palms and soles.

A Case of Pityriasis Rubra Pilaris.—Presented by OSCAR H. HOLDER.

In this case there were lesions on the neck, front of chest, knees and arms, present continuously for at least three years.

DR. SHERWELL said that one of these cases was certainly very marked, and he considered incurable. The other patient had been under his own treatment at one time, twenty years ago, and had not been much improved at the time.

DR. J. M. WINFIELD said that Dr. Fordyce's case had been under his treatment several times. Three years ago the man had come to the Kings County Hospital with the disease confined to his hand. After having been there a few days he had shed a cast of his hand. He had left the hospital, but not cured. The next fall he had returned with an eruption having about the appearance presented at the present time. At that time the diagnosis had been the same as the one given this evening. The man had entered the hospital a third time, and had been treated with ichthyol ointment, but had soon disappeared from observation.

DR. FOX said that he had seen a goodly number of these cases and that he could not recall that he had ever seen a case that had been permanently cured. Most of the text-books claimed that arsenic would cure the disease. He would like to ask those present if they had seen cases which had remained well. Out of perhaps twenty cases of which he had notes, he could not remember a single one which had recovered, or had been permanently cured by the treatment.

A good many had criticized the original article of Hebra for claiming that all the cases he had described as lichen ruber had terminated fatally. Often these cases improved, but sooner or later there was a fresh outbreak of the disease, and, in most instances, the disease went on from bad to worse.

DR. GEORGE T. ELLIOT said that he had seen a good many of these cases; whether they were the same as the case originally described or not he could not say. He had never seen any case permanently cured. The disease reminded him in its behavior more of psoriasis than of any other disease. Some years ago he had under his care a patient from New Jersey with pityriasis rubra pilaris. At times she would be free from it—at one time she was free for three years. Her brother and her sister were both under his care for psoriasis. It did not seem to him any more correct to ascribe a death to pityriasis rubra pilaris than to psoriasis. One might have it for twenty years, just as with psoriasis, and then die of some intercurrent disease.

DR. SHERWELL, in answer, recalled certainly one case which had been sent to

him a great many years ago by Dr. Skene. He had treated her with linseed oil baths and she had recovered and remained free from it for a long time—certainly for three years or more. The patient was a young and marasmic but became a well-nourished girl. The eruption had affected the whole surface of the body. This was, he thought, the nearest approach to a true cure that he had met with in this affection.

DR. HOLDER said that the case had been treated with sulphur and resorcin ointment for the past month. The woman was now about thirty-five years of age, and the eruption first made its appearance at the age of twelve. She had never been free from it since that time.

DR. FOX said that while the disease did resemble psoriasis in its frequent relapses, it was different in that the health of the patient with pityriasis rubra pilaris usually suffered. In such cases not only had the condition of the skin grown worse, but the general health of the patient had become markedly deteriorated so that it gave the impression to one that death was due, in part at least, to the skin disease.

DR. HOLDER said that his patient had been married thirteen years and had two children who died very shortly after birth, showing that the mother's general health had not been very good.

DR. J. C. JOHNSTON said that it was quite commonly stated in text-books that these cases began with a cornification about the follicles as the primary lesion; in one case presented he had understood that the cornification had not appeared until later, the earliest symptom being erythrodermia. Was there not a further analogy between inveterate psoriasis and pityriasis rubra pilaris in that either one might pass into a generalized pityriasis rubra of Hebra, and the patient gradually sink into the cachexia commonly accompanying that condition?

DR. FORDYCE emphasized the statement just made, that the disease had begun as an erythema. Shortly after the horny layer of the palms and soles had become enormously thickened.

A Case of Epithelioma of the Lip in a Man Twenty-eight Years of Age.

—DR. C. W. ALLEN presented a man twenty-eight years of age with a well-marked epithelioma of the lip, which had existed for nine months or longer. He had first presented himself for treatment five months before, but had gone out of the city to live before anything was done. Dr. Allen now proposed to apply arsenical paste, as he had done in two other instances of epithelioma recently shown at the Society.

DR. A. R. ROBINSON said that six weeks ago he had treated a man for epithelioma of the upper lip and of the lower lip, situated respectively at points directly opposite each other. The one on the upper lip had evidently resulted from contact with the one on the lower lip.

A Case of Lichen Planus of the Large Papular Variety.—Presented by DR. A. R. ROBINSON.

This was a young man who had the disease for about two years. It was asymmetrical and an excellent example of the warty form, or rather of that variety consisting of large papules. The lesion was limited to the anterior aspects of the leg.

DR. FORDYCE said that many of the lesions resembled those that he had reported some years ago under the head of hypertrophic lichen.

DR. MORROW said that in a case of almost universal lichen planus coming under his care, the lesion had disappeared in a very remarkable manner under very different treatment, but one patch on the right buttock had presented an hypertrophic appearance. Here the lesions seemed to be massed together forming a plaque. They were elevated fully one-eighth of an inch above the skin, and the treatment used on the other portions of the body had no effect here. It had occurred to him that the treatment he had used in keloid might be of service, and accordingly he had frozen the surface with chloride of ethyl and cocain, and had made very deep scarifications across it, and a day later he had applied salicylic-acid plaster, and it had been worn continuously. A week later the improvement had been most marked. He had made but three scarifications at intervals of a week, and the plaque was now almost level with the surrounding skin. A singular feature was that in the process of clearing up the repair had distinctly begun at the circumference.

DR. ALLEN said that the case under discussion reminded him very much of one he now had under treatment in which the lesions were also on the right leg exclusively, extending nearly from the knee to the ankle. The lesions were hypertrophic and somewhat warty. Although the man had been under treatment for a short time with chrysarobin traumaticin the improvement had been very marked. He had been led to use the chrysarobin in that case because he had used in another case of disseminated lichen planus in which the lesions had disappeared promptly under its use.

DR. MORROW added that in his case for two months he had used chrysarobin, beginning with a ten-per-cent. mixture in traumaticin. He had afterward increased the strength and added salicylic acid so that the final prescription had been one dram of salicylic acid and two drams of chrysarobin to one ounce of traumaticin. He had used it for fully two months, and had applied it every second or third day, but it had seemed to make little or no impression on the patch, although it had excited some dermatitis of the surrounding skin.

DR. ROBINSON said that he had intended to use chrysarobin, but not in greater strength than fifteen grains to the ounce of traumaticin. He expected to accomplish more with that strength than with a stronger one. He had experimented with it a great deal within the last few months, and had demonstrated this fact to his own satisfaction. He had presented the case because of the large warty lesion and the fact that they were isolated.

A Case of Anesthetic Leprosy.—Presented by G. H. Fox.

This case was interesting on account of the rapid development of the disease, and the fact that the man had visited a leprous district thirty years ago. Since then, however, he had never been further from New York City than Newark. He had always been temperate and fond of athletics. His weight for the past thirty years had been about 140 pounds. He had improved considerably on a little chaulmoogra oil with strychnia tablets, and the cutaneous symptoms of the disease had lessened somewhat. While at work as an engineer he had frequently blistered his hands on the steam pipe, and this had caused them to swell and become painful. There were patches on the palm, which, in Dr. Fox's experience, were not uncommon. Numbness had only been experienced for a period of three months. There was a "drawing" of the little finger, which had been noticed ten months ago, and which had been attributed by him to an injury.

DR. MORROW called attention to the increased frequency with which leprosy had been brought before this Society, and said that the question arose as to whether there were more cases of leprosy in this locality or not. He had been impressed with the extremely long incubation period in the case just presented. Of course, there were reported cases at which the incubation had been from thirty to fifty years. Dr. Fox's statement that these lesions had only been developed within the last six or eight months was certainly open to question. He had personally observed a number of lepers in which these erythematous lesions had begun and had been present for a period of from one to three years without having been so marked, but it was perfectly possible for them to have escaped the patient's notice. With regard to the leprous lesions of the hand he was not sure that they were due to his disease; they seemed rather to have been the result of a burn. In view of the fact that lepride of the palm was exceedingly rare he would like to examine the case in daylight before he would be willing to admit that it was a lepride.

DR. FOX said that undoubtedly the man had burned his hand, but when first seen there had been two distinct marginate dull brownish-red spots upon the palm quite similar to those upon the arm. He could recall two or three instances in which patches had been on the palm quite similar to those found upon the body, and he was disposed to believe that leprides on the palm were not so very rare. As to the period of incubation, all that could be said was that the leprosy had developed in locality in which the disease was not endemic and where the man had resided for thirty years. It was a good deal to assume that under such circumstances the period of incubation had been thirty years. As to the exact cause, he believed that we were in absolute ignorance. All that we knew was that leprosy was apt to develop in certain localities. The patient had been aware of the fact that leprosy was known in New Brunswick, but he did not know that he had ever associated with any lepers.

A Case of Pityriasis Rosea.—Presented by DR. OSCAR H. HOLDER.

The case was that of a woman presenting six lesions supposed to be those of pityriasis rosea.

DRS. WHITEHOUSE, BRONSON and DADE concurred in the diagnosis.

DR. C. W. ALLEN said that he could not make the diagnosis of pityriasis rosea, especially after having tried an application of iodine as a test to some of the spots, which did not seem to stain sufficiently deeply for this affection.

DR. MORROW said that he would be willing to accept the diagnosis if the spots were more abundant. The individual lesions were certainly those corresponding to the description of pityriasis rosea, but he had never seen the lesion so scanty. Moreover, a few of these lesions were more extensive in area than in pityriasis.

DR. SHERWELL said that this was the most discrete pityriasis rosea that he had seen, and the lesions did not appear on the places where he would have expected them to be. He was therefore inclined to doubt the correctness of the diagnosis.

DR. ROBINSON said that he would hesitate about pronouncing this a case of pityriasis rosea.

DR. HOLDER said that he had first thought the case to be ringworm, but scrapings from two of the lesions had failed to show under the microscope the presence

of the characteristic fungus. The lesion on the leg and the one on the arm seemed to be quite distinctive.

DR. JOHNSTON said that in a disease about which we knew so little as pityriasis rosea it was difficult to say that this was not the correct diagnosis, because the picture was not entirely typical. In his experience the lesions had been generally atypical.

DR. FOX said that the disease was not a well-defined affection. Certainly he thought the disease was a very common one. There might be 500 lesions coming out acutely, or there might be only one large circular lesion on the neck or abdomen, for example. Such a lesion might exist for some time before any other scaly lesion appeared. It was like psoriasis, in which the lesions might be very numerous, or they might be very scanty. The buckskin-colored center was often found, but it was not always present. He thought the diagnosis was absolutely correct in this case, and that the case was a typical one.

Angiosarcoma on the Chest.—Presented by DR. J. M. F. WINFIELD.¹

The patient was a boy who had come to him at the Polhemus Clinic about four months ago, with a large telangiectatic tumor on the front of the chest. According to the history, there had been one year ago only a small wart, but he said it had grown much larger in three months. It had then been removed by some physician, and following this there had developed a small group of red growths resembling hemolymphangioma.

DR. SHERWELL thought it was a circumscribed lymphangioma with an unusual amount of small cell infiltration around it. Operative treatment was of course entirely out of the question. He thought it would be well to try to mummify the lesions by a strong solution of formaldehyde.

DR. FORDYCE said, after an examination of the sections, that the case seemed to him to be undoubtedly one of angiosarcoma. The fact that tumors had occurred after removal, that they were hard and did not disappear upon pressure seemed to confirm the diagnosis. Dr. Fordyce presented two sections from such a tumor of the abdomen, and another from the scalp, which resembled the case under discussion. These cases seemed to present very little malignancy, he said, but the histological diagnosis was nevertheless angiosarcoma.

DR. ROBINSON said that at first he had thought the case to be lymphangioma, but after seeing sections he could not help agreeing with Dr. Fordyce regarding the diagnosis.

DR. WHITEHOUSE said that he inclined to hematomolymphangioma as the diagnosis, because of the clinical appearances presented. He had not examined the sections.

DR. JOHNSTON agreed also as to the diagnosis. He said that the connective tissue cell proliferation about the vessels was well marked and that it might be called sarcoma, but it is well known that many new growths formed of tissue called sarcoma, but it is well known that many new growths formed of connective elements, indistinguishable from the sarcoma-cells are nevertheless not malignant.

¹See page 113.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Stated Meeting Held on Tuesday Evening, December 12, 1899.

G. K. SWINBURNE, M.D., Chairman.

PRESENTATION OF INSTRUMENTS.

A New Urethroscope and Improved Kelly Cystoscope.—By DR. CHETWOOD.

DR. CHETWOOD said that at the last meeting of the Section he had the pleasure of presenting a new urethroscope and wished to present an extra attachment to that instrument. This consisted of an additional light-carrier, which could be placed inside of the urethra, against the mucous membrane, without overheating it, being protected by a cup so that examination could be made with a speculum instead of an endoscopic tube. This was useful for operative maneuvers in the urethra.

Dr. Chetwood also presented an improvement upon the Kelly cystoscope, consisting of the ordinary Kelly cystoscopic tube, to which was attached a light-carrier such as was employed in his urethroscope, thus obtaining the direct in place of reflected light in the bladder, which facilitated ureteral catheterization. He had recently demonstrated the practical working of the instrument by catheterizing the ureter of a patient for Dr. Keyes.

PRESENTATION OF INSTRUMENTS.

DR. ALEXANDER showed an electric light for illuminating the bladder after supra-pubic cystotomy. He claimed no originality for the design of the instrument, which was made by the Wappler Electric Controller Company.

The instrument was a light similar to that used with the Chetwood Urethroscope, made by the same company, but the light and carrier were covered by a glass tube. Dr. Alexander said that the instrument in its present shape was crude and needed modification; the carrier and tube should be made shorter, and the handle of the instrument should be made in the form of a retractor, which could be used at the upper angle of the vesical wound. The advantages of the instrument were, that it took very little space; that it did not get hot; that it could be easily sterilized by boiling, and that the glass cover so protected the electric lamp that there was no danger of the latter breaking when coming in contact with the fluids of the bladder.

Dr. Alexander also presented the latest modification of Brenner's catheterizing cystoscope, and demonstrated the workings of the instrument. He said that he had found this instrument to be the simplest and most easy to use for catheterism of the ureters. He thought the instrument had all the advantages of Dr. F. T. Brown's modification of the Brenner instrument. His experience with the instrument had not been extensive, but at the present time he had found it better than any catheter-cystoscope which he had hitherto used.

Dr. Alexander showed some woven silk styletted catheters of English make, which permitted sterilization by boiling, and which were commendable on account of their high finish. The English styletted catheters, he was aware, had a very limited use, but they were invaluable in certain cases of prostatic enlargement where catheterism was difficult.

These catheters bent into a prostatic curve could be passed down into the membranous urethra, and the stylet be gradually withdrawn; the curve of the instrument would then be greatly exaggerated, and in many cases slipped into the bladder when no other instrument could be passed; this, he knew, was an old trick, and believed that it was first suggested by Sir Henry Thompson.

He also showed some catheters *à coudé* which were made in England by the agents of Tiemann & Co., and which in finish and in their resistance to sterilization, were equal to any of those of French make.

DISCUSSION.

DR. FERD. C. VALENTINE said that the question of priority in the invention of an instrument seemed to him of little importance. That an instrument was useful, however, was proven when several claimants for priority of invention arose. In this connection and to prevent any misapprehension regarding his attitude in the matter, he might be permitted to submit several facts. As early as 1894, when in Berlin, he discussed with his friend, Dr. Koch, of Rochester, the advantages and drawbacks of the Nitze-Oberlaender urethroscope. Dr. Koch agreed with him that urethroscopy with the direct light would never find general favor until the cumbersome water-cooling arrangement could be eliminated. The means of accomplishing this would be in a covered light that would illuminate sufficiently and give no heat. All endeavors to have such a light made resulted in failure. Towards December, 1898, Dr. Koch discovered a skilled electrician who could make such a light. The speaker thought his friend had been deceived and told him of his (the speaker's) failures. Therefore the speaker hesitated to devote any time to examining the matter. He was later convinced, however, that he was wrong and the result was his exhibition on March 14th, 1899, before this Section and in the presence of Dr. Koch and of Mr. Preston, who made the light, the first urethroscope constructed on that plan. He clearly saw the defects of the light-carrier and asked the manufacturers repeatedly to substitute a metal binding for the gum and thread by which the lamp was attached to the light-carrier of the urethroscope he had the honor of being the first to demonstrate. He also insisted upon other improvements, which he would have occasion to demonstrate at another time. The manufacturers, however, refused to make any changes. At the November meeting of the Section Dr. Chetwood showed a urethroscope with the same principles as the one he had demonstrated eight months before, but with the signal improvement of the lamp set in a metal binding. As he would not claim anything that was not his, the speaker was sure that Dr. Chetwood never knew of his desire for this marked improvement. Therefore in his future work on the instrument the speaker said he should be in the position of having stolen the metal binding from him. He would not, however, take from Dr. Chetwood his interruptor, as he saw no purpose whatever in that attachment. His other objections to it would be manifest when he could have the privilege of demonstrating the improvements which increased experience had shown necessary and convenient for easy, thorough urethroscopic

work. He wished to compliment Dr. Chetwood on the neat, light, clean form of his case, which certainly was a great step in the right direction. He wished also to congratulate the profession on Dr. Chetwood's application of the covered light to the urethral speculum. It manifestly exposed a much larger surface than the tube could, which would prove decidedly satisfactory for intra-urethral operations, the removal of growths, the treatment of lesions, provided experience did not show that dispersion of heat which the urethroscopic tube gave was not thereby lost.

To return again to the question of invention. If a hundred specialists follow in modifications of the work founded by Nitze and Overlaender we shall have so many urethroscopes, good and cheap, that no modern professional household will be complete without one.

Dr. Chetwood's modification of the Kelly cystoscope was another improvement in the right direction. He hoped to have occasion, as soon as certain experimental work of his in this regard was finished, to have more to say on the subject.

In conclusion he would thank Dr. Alexander to inform them whether he found the instrument he presented equal to Albarran's cystoscope.

Dr. Alexander said he did not think it was. He thought simply for the ease with which the manipulation could be done, for simple catheterization of the ureter, it seemed to him it would be superior.

DR. WEISS said he did not know that he had very much to say about this urethroscope. He had not been here when it was demonstrated, but he had seen and used it often. He had had special interest in this urethroscope as he thought that he had devised some parts of it last spring,—the light-carrier which fastens on two pins and the little wheel which shuts off and connects the current instead of the old slide, which very often gets out of order. The speaker said he knew that he had not done a great or immortal thing, but he did not think it would be out of place if he claimed priority for those two points. The urethroscope as it is was a very good one for it did not get hot even after working with it 10, 12 or 15 minutes. Of course it would always be the work laid down by Kollman-Oberlaender which leads us, and the urethroscope was more or less the same as theirs, but for these little differences which he had emphasized.

The speaker said he did not mean or ever had the faintest contention that Dr. Chetwood had stolen anything. He would simply insist upon it that he had divided, with the aid of Mr. Wappler, very early in the spring, those two little improvements.

DR. CHETWOOD said he was glad to render acknowledgment for any suggestions tending to the improvement of the urethroscope and hoped they would continue.

Dr. Alexander then read a paper entitled: "Report of a case of intraperitoneal; a case of extraperitoneal rupture of the bladder; two cases of fracture of the pelvis with rupture of the urethra resembling extraperitoneal rupture of the bladder, with remarks."

DISCUSSION.

DR. BOLTON said there was little or nothing to be added to Dr. Alexander's remarks and he could not do better than merely to emphasize one or two points that his own experience in this class of injuries had taught him to regard as of

the greatest importance. He referred to the time at which operation was to be undertaken. That should certainly be done at the earliest moment possible, which was the moment the diagnosis was certain. Delay beyond that time was of no real use and simply added to the dangers of the situation.

The second point he would emphasize was the advantage of perineal over suprapubic drainage, not only on general principles, but because of the close proximity of the abdominal wound in cases in which the rupture of the bladder had been intraperitoneal and the increased risk therefore of peritoneal infection implied by suprapubic drainage.

The case of extraperitoneal rupture referred to by Dr. Alexander was especially interesting from a diagnostic point of view for the patient came into his hands five days after his bladder had been ruptured and at that time the conventional tests for rupture of the bladder all failed to show the existence of that lesion. So that for two or three days, or until crepitation developed in the right groin, the lesion was presumed to be rupture of the kidney rather than the bladder.

In regard to rupture of the urethra he could only confirm what Dr. Alexander had said.

No sutures at all were necessary unless the urethra was entirely torn through and then two or three in the roof of the canal, supplemented by longitudinal slits of its floor at the point of division, were all that necessity demanded, and with such treatment results were eminently satisfactory and will be published.

DR. ERDMAN stated that he heartily endorsed Dr. Bolton's remarks about a perineal drain in these cases and based his remarks on a case of extraperitoneal rupture of the bladder with infiltration of the preperitoneal tissues up to a point which corresponds practically to a line at the level of the umbilicus. In that case there was some difficulty in making a diagnosis. He exposed the Space of Retzius. After that, not being able to demonstrate rupture, he opened the peritoneal cavity. There he found absolutely no evidence of rupture in the posterior portion. He then sewed up the peritoneal incision and injected water into the bladder through a catheter, by which means he was able to find a very small stream welling up from the right anterior portion of the fundus, extraperitoneally. An effort was made to sew up this opening and then perineal drainage was made. In this case there was a sloughing of the preperitoneal tissues of some extent. The case had been in the hospital on the medical side some three days, in a condition of coma, previous to being seen by him and there had been absolutely no history with reference to an injury; no points of contusions were observed. The patient made an uneventful recovery, which the speaker thought was entirely due to the fact that the perineum was drained.

DR. OTIS said that there was very little to be said in addition to the explicit exposition of the subject that the author had presented, but he should like to add his testimony as to the inadvisability of total suturing of the urethra after rupture. To bring the ends of a torn urethra into exact apposition was a practical impossibility. Total suture of a ruptured urethra was a difficult and unnecessary operation and what was more to the point was certain to be followed by stricture at the line of suture, requiring subsequent operation, which would not be the case where the drainage tube was used and proper after treatment persevered in.

In regard to perineal drainage there was no doubt that if the suprapubic wound were entirely closed it was better than any other method of draining the bladder, but it would be found that in many cases where there was a suprapubic opening

the perineal tube would refuse to drain and the urine insist on making its way out through the suprapubic wound. He presumed that this was due to the collapsed bladder wall stopping the outlets of the perineal tube. He understood that theoretically perineal drainage should accomplish all that was asked of it, but he was fully convinced from his own experience that in many cases where both openings in the bladder were made, in spite of any amount of ingenuity in the adjustment of the tube, or the use of any form of tube, drainage by that method would in many cases fail to give perfect satisfaction, especially when dealing with a bladder which was atonic.

DR. MANLEY said he had been very much interested in the paper of Dr. Alexander's as he had seen a large number of cases of serious traumatism of the pelvis.

He inquired whether he used catgut or silk in closing up the bladder?

This matter of drainage—and he presumed that Dr. Alexander wished brought out what those present thought the weak points as well as the strong points of his paper—seemed to him had been overdone in the author's first case. The speaker thought that if we succeeded in closing a fresh wound of the bladder and doing it effectually and effectively and made no opening at all in the Space of Retzius or through the perineum, but kept the bladder well catheterized by syphonage, irrigations, etc., that we might obviate the necessity of the incision. It would seem to the speaker that if we could cut into the bladder and remove papylomatous growths, small malignant excrescences, cauterize ulcers of the bladder and then seal it up by a line of sutures and with draining by catheters that this would be the ideal operation. He could understand that where traumatism had weakened the vitality of the tissues there was some doubt about the ultimate giving way of the tissues.

As regards diagnosis he could not agree with the author about the failure of the injection. He had used it a good many times and never had occasion to regret it. In fact it had been the test he had always relied on, because where we have had patients brought in who had given issue to a considerable quantity of blood from the urethral or the vesical lesion, etc., where there were reasons to suspect a rupture of the bladder, and where by the injection test we had decided that there was not, there was not a single instance he knew of where the patient did not recover. If the urine was aseptic, if it was healthy urine, if the bladder was healthy, if the material injected was antiseptic, he could not see what harm could come from a small quantity being injected, if it should possibly reach the peritoneal cavity. That, however, could be very easily demonstrated, it seemed to him, by catheterization.

In the matter of the perineum and suturing lacerations of the urethra, he was very much surprised to hear genito-urinary surgeons say that this was not an ideal operation. It seemed to him it should be; that perfect anastomosis of the urethra after laceration and closure of the cuts of the urethra by fine catgut,—closure that was absolute, followed by immediate and permanent closure of the perineal wounds with drainage by the catheter, was ideal surgery. It seemed to him that it should be the aim of the operation to bring about as far as possible without any further incisions in the way of effecting drainage; and of course they were well aware that at the present time a very strong counter-current had set in against indiscriminate drainage of recent wounds. Surgeons were not draining the peritoneal cavities as they used to. They found that they had overdrained, and it seemed to him that we might possibly overdrain in cases of trau-

matisms of the bladder or of the urethra, to the great disadvantage of the patient.

DR. CHETWOOD said that the importance of haste should be emphasized where there was any doubt at all between an intraperitoneal and an extraperitoneal rupture of the bladder. The abdomen should by all means be opened to hunt for the possible intraperitoneal rupture as the danger of the operation was very much less than the danger of leaving an intraperitoneal rupture.

In regard to the suturing of the urethra, he entirely agreed with Dr. Alexander and Dr. Bolton that it was unnecessary to suture the urethra in its entirety and that the advantage of drainage was much superior to the possible advantage of complete union of the urethra by suture.

DR. ALEXANDER in closing the discussion thanked the members of the Section for their kind words, and said the pleasure had been his in reading the paper before the Section.

He said that the question of vesical drainage after rupture of the bladder was one of individual surgical judgment in each case; no definite rules could be laid down which would apply to every case. He believed that in cases of rupture bladder there was more danger of infection, if the bladder was drained through the perineum, than if the tubes were placed through the suprapubic opening. The objection raised by Dr. Bolton to suprapubic drainage of the bladder, in cases where the peritoneal cavity was opened, would be of course a valid one, if the drainage was not efficient; if, however, the drainage was efficient, and the bladder was kept constantly emptied, the dangers of peritoneal infection would be very slight. The efficiency of the suprapubic drainage depended upon the way in which the tubes were placed, and in which they were permanently secured, and in which the syphonage was established.

The advantages of suprapubic drainage over peritoneal drainage in cases of ruptured bladder was, that in a certain proportion of these cases, there was more or less hemorrhage; as the result of this clots were likely to form in the bladder and obstruct the outflow of urine by stopping up the drainage tubes; if a single perineal drainage tube was employed, it was necessary in order to remove these clots to distend the bladder; when, however, two suprapubic tubes were employed, the clots could be removed, and the bladder kept perfectly at rest.

In answer to Dr. Otis's question as to the efficiency of perineal drainage when a suprapubic opening had been made, Dr. Alexander said that when he had a case of this kind, in which the perineal drainage did not work satisfactorily, he blamed himself for not having properly introduced the tube. It had been his experience that after opening the bladder above the pubis, perineal drainage could be efficiently employed if the tube was properly introduced.

In regard to the question of immediate suture of the urethra after rupture, he said that he had already expressed his opinion upon this subject. It had been his experience that as good, if not better results could be obtained without suture after rupture of the urethra, than when the divided ends were brought together by suture; in three cases in which the latter had been done, rather obstinate strictures had followed.

When a rupture of the urethra occurred it was necessary to establish vesical drainage; therefore, it did not seem to be possible or necessary to suture the divided ends of the canal; he therefore thought that it was not only poor surgery, but a waste of time to attempt immediate suture.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Tuesday Evening, January 9, 1900.

G. K. SWINBURNE, M.D., Chairman.

Case of Lymph Scrotum after Operation.—By DR. PEDERSON.

DR. PEDERSON read the history of the case as it was when first presented to the Section at the May meeting of the Section.*

The size of the scrotum interfered with the man's ability to do his work, and he was anxious to have relief. The scrotal mass reached almost half way to the patient's knees. In the Section the effect of ablation was brought up, and though opinions concurred as to the advisability of the operation, no one seemed to be very certain as to the ultimate result in this case. He ventured the opinion that ablation would give temporary relief, of course; but that the lymph engorgement of the scrotum would continue in the stump, which then would probably go on to an hypertrophic condition, finally resulting in elephantiasis. They had been agreeably disappointed, however, and he should be pleased to show the patient as he was to-night.

Ablation was done with the Henry clamp; primary union was secured. The patient then passed from under their observation. He returned to them recently to have the chronic urethritis treated. There was one point in particular he should like to touch upon. At the meeting last Spring, when he first presented this patient, Dr. Klotz brought up the point that when the inguinal glands were excised it was not wise to suture and get primary union, especially if both inguinal regions had to be cleaned out. He made the point that if the wounds were left open to granulate, the lymph channels would form and lymphatic drainage would be established as in the normal state, whereas, if primary union were obtained, the lymphatic circulation was liable to be interfered with. The speaker said he had called attention to the fact that in this man both groins had been cleaned out, and that primary union had been secured.

Some of the gentlemen present, however, did not agree with him that primary union had been secured. Later he asked the patient and learned to a certainty that these wounds had not been left open to granulate, but had been sutured. On careful inspection of the cicatrices they would see the stitch marks. The wounds, then, were healed by first intention, and the point Dr. Klotz brought out was therefore illustrated in this case.

The interesting point this evening was that the stump of the scrotum was quite normal in character; the lymph engorgement had disappeared. They submitted the ablated portion of the scrotum to a pathologist, who reported that it consisted of very loose areolar tissue, the large spaces in the mesh work filled with lymph. He explained the present normal condition on the ground that the lymph vessels were sufficient, or had become sufficient, to drain the small area comprised in the stump, whereas they were not sufficient to drain the previously existing large mass.

*Journal for September, 1899. p. 415.

DISCUSSION ON DR. PEDERSEN'S CASE.

DR. VAN DER POEL said he thought it important to mention as regards the causation of this pathological condition, that it was believed by many to be due, not to interference with the lymphatic circulation, but with the venous circulation, Cohnheim having shown upon animals that the removal of all the lymphatic vessels and glands of the groin did not, after many trials, produce any oedema whatever of the parts in question.

DR. GOLDENBERG said that Cohnheim's experiments referred to *normal* lymph and *normal* lymphatics and he could easily understand that a total extirpation of the lymph glands in the groins was not followed by a stasis of the lymph and an elephantiac thickening of the scrotum, if there was sufficient lymph space left for the normal lymph. But if through an inflammatory or infectious process the lymph is changed in quantity or quality, the little lymph space left would not be sufficient for the absorption of the lymph, which is increased in quantity and which contains more coagulating material. The result would be a stasis of the lymph and a subsequent pachydermia.

DR. OTIS said that Cohnheim had been unable to produce what we might term artificial edema by the excision of glands in the laboratory and therefore concluded that edema could only be produced by interference with the venous system, never by obstruction or obliteration of portions of the lymphatic system. From a clinical standpoint, however, it would certainly seem that these cases of "lymph scrotum" were usually if not always associated with the destruction of lymphatics in the inguinal region, and apparently do not bear out Cohnheim's theory based upon experiments on animals and which were negative in character.

Presentation of an Improved Otis Urethroscope.—By DR. W. K. OTIS.

DR. OTIS said that the requisites of a satisfactory urethroscope, in order of their importance, were, first, good illumination of the urethral field, and secondly, facility in reaching the field with instruments, working under the light. It should also be simple in construction, strong, inexpensive, and light in weight.

Not to dwell upon all the various devices which have been advocated for illuminating the urethral field, for this was the most difficult as well as the most important problem which presented, we have to-day practically to choose between but two methods, the *internal*, where the source of light is introduced directly into the urethroscopic tube, and the *external*, in which the source remains outside and the light is thrown into the tube by means of a lens. The former method was originated by Nitze in 1877, who used a loop of platinum wire placed on the end of a metal tube, through which ran a continuous current of cold water to prevent burning the urethra. This loop heated to whiteness by a current of electricity served to illuminate the urethral field. The expensive and cumbersome apparatus, the difficulty of managing the cooling appliance and rheostat, and the danger of burning out the wire or of injuring the urethra, tended strongly to offset the advantages of illumination which it once possessed. The recent introduction of exceedingly minute electric lamps, far smaller than any previously constructed, which give out but little heat and possess a good illuminating power, has developed a urethroscope of this order which has obviated most of these objections.

Nevertheless, it has no advantages over the best instruments illuminating from without, and has several important objections. The illumination of the

field with this instrument is good, although a portion of the view is obstructed by the lamp, which, small as it is, is capable of interfering to a considerable extent when the smaller tubes are used.

It is adapted only for one length of tube, and while all portions of the urethra may be observed with the long tubes, it is frequently advantageous when working on the anterior urethra to use short ones. With this instrument it becomes necessary to have a separate light cooler for each length of tube used.

The tiny lamp has to be treated tenderly, has rather a short life and requires to be sent to the instrument maker to be renewed.

All these objections are trifling, however, compared with the fact that *it is not a good working instrument*.

The presence of the lamp, as in all instruments of this class, hinders the use of applicators in conveying medicated solutions directly to the urethral mucous membrane and of swabs when bleeding or discharge is present. If this is attempted the lamp frequently becomes entangled in the cotton swab or becomes coated with blood or pus, rendering it for the time being useless, and a very possible source of infection in subsequent operations.

The speaker said the instrument to which he desired to call their attention this evening was on the other principle and was a modification of the Otis urethroscope,—an instrument which had stood the test of some ten years' continuous use and had demonstrated its superiority over all others designed for the practical examination and treatment of the urethra under direct ocular inspection. He had found that in instances brought to his attention in which it had failed to give satisfaction, the trouble was due, first to improper construction (and he might say here that the only instruments he had seen, until recently, which were properly made, were those of Messrs. Tiemann & Co.); secondly to imperfect adjustment, and for some reason, although a very simple matter, that seemed to have given considerable trouble. The exact adjustment of the instrument was of the utmost importance, though when it was once made it needed no further attention. The tubes should be constructed so that they all center alike. Sometimes the disk on the tube was not soldered on perfectly straight, when it needs to be bent sufficiently to bring the instrument in line, or what was more commonly the case, the curves in the wire arm must be changed slightly so that the beam of light is thrown directly down the tube and at the same time sufficient room allowed for the eye to easily see the entire field. After each tube had been tried and adjusted it should give no further trouble.

The alterations in construction which he had recently made in this urethroscope had greatly increased its efficiency.

The introduction of low tension lamps gives a better light with considerably less current, entirely obviates unpleasant heating of the instrument and renders the apertures for ventilation unnecessary. Packing the lamp with plaster of Paris, or silvering, increases the light. A more convenient switch, consisting of a small wheel instead of the thumb-screw, has been placed in the handle, which has also been lengthened to $2\frac{1}{2}$ inches. The hinged joints having been found unnecessary have been abandoned, so that the instrument should now come from the maker properly adjusted and require no further attention.

Lastly, the lens had been improved and a funnel-shaped diaphragm had been added to cut off the extraneous light, which was the source of a certain amount of annoyance.

He thought after this demonstration he might justly claim for this instru-

ment the following attributes: Brilliant illumination, a clear working field, lightness, strength and simplicity of construction; it was aseptic and not expensive.

DISCUSSION ON DR. OTIS'S URETHROSCOPE.

DR. VALENTINE said that while gratified by this new evidence of Dr. Otis's ingenuity, he must confess to disappointment in seeing his modification of the Otis urethroscope. He had hoped to find that he had left the unreliable projected light and had adopted, as others had done, the direct light, which he (Dr. Valentine) first demonstrated in this Section on March 14th of last year. Naturally, the speaker said, he did not claim anything but modifications in what is known as the Valentine Urethroscope. Nitze and Oberlaender had long preceded him in using a light within the urethroscopic tube. But theirs was an uncovered platinum wire, requiring a cumbersome water-cooling arrangement and either dip bottles or accumulators, which had the bad habit of giving out at the most inopportune moments. Moreover the little platinum wire was always ready to burn out, requiring minute and difficult work to replace it. To overcome this difficulty, Wossidlo modified the light-carrier, so that when the lamp burned out it could be more rapidly fed into place by means of a long wire from the handle. At the same time, about November, 1898, Dr. Valentine said he was at work with the firm who first made his urethroscope, in constructing an instrument that would do all the work of the Nitze-Oberlaender urethroscope and have none of its objections. How satisfactorily this was accomplished was the subject of the discussion with which his first public demonstration was honored in this Section on March 14th, 1899, and subsequently before other learned bodies. The principle was further confirmed by the same encapsulated light since being adopted by others, notably his friend Dr. Chetwood, who demonstrated his modifications here in our meeting of December, 1899.

Aside from Dr. Otis not becoming an adherent to direct light in urethroscopy, it was evident that from the manner in which Dr. Otis's light-projector was placed it obliged the observer to learn to look into the tube. This, in the course of time probably ceased to be a great objection, but it was likely to discourage beginners. Moreover, as a urethroscope was no intended only for visual exploration of the channel, but for intraurethral treatment and operations as well, an objection to projected as well as reflected light must be in the fact that a swab or any other instrument inserted into the tube, *in front of the light*, must cast its own shadow upon and render dark the very point that should remain illuminated for intelligent treatment.

Another objection, to the speaker's mind, was the large handle which carried the Otis light-projector. All experienced urethroscoipists would concede that an essential to urethroscopic work was in delicacy of manipulation. This required that the penis and urethroscopic tube be held with one hand, while swabbings, applications, slitting or electrolysis of glands, removal of growths, etc., be performed with the other. It seemed to him that the handle of this instrument was an impediment to such work, except with those gifted with most extraordinary manual dexterity. The impediment lay mainly in the fact that one hand must be occupied in managing the handle of the instrument; this would make it especially difficult to manage when irregularities in the urethral caliber presented. And even in the normal urethra we have to deal with such irregularities. Therefore when the mouth of the tube was within a space wider than

the narrowest point of the urethra would admit, the tube, governed by a hand that did not grasp the penis at the same time, must slip and allow to escape from vision and treatment points that might be important in a diagnostic and therapeutic sense.

Dr. Otis told us that the light inserted into the tube took space from our work within the tube. At first thought this seemed to be a self-evident proposition. But the encapsulated lamp was so minute, that especially with certain improvements he hoped to have the privilege of showing at a future meeting this objection to direct light was rendered entirely nugatory. But even now, as the light did not touch the bottom of the tube, it left a complete circle of the illuminated urethra exposed to sight.

The objection that a direct light interfered with swabbing or the local applications was an error. All depended upon the manner in which the swab or applicator was made. It was also a mistake to assume that the encapsulated lights readily burned out. There was no more reason for a small direct light to burn out than a large projected one; in either case a suddenly turned on excessive current must have the same effect.

Dr. Otis had emphasized,—and very correctly, too,—one difficulty which besets all who devise instruments. The speaker said he alluded to defective workman-ship. It was difficult, even impossible, except with certain manufacturers, to get them to see that their interests lay in as perfect workmanship and as good materials as were obtainable.

The ingenious electric switch which Dr. Otis had attached to his urethroscope seemed to him to lack purpose. Why should one want to turn the light off when the tube is in the urethra? This same switch, however, would certainly prove an invaluable attachment to any of the present cystoscopes, so that the fluid with which the bladder was dilated could be instantly allowed to cool.

Much more could be said in this discussion of this instrument; much indeed that might appear unfair coming from me, an avowed partisan of the direct light in urethroscopy. But no one could deny the ingeniousness of the device that Dr. Otis exhibited to the members of the Section. For practical proof of their views on the subject, he hoped to have the privilege of here demonstrating his urethroscope on patients, and should request Dr. Otis to kindly exhibit his at the same time and in the same manner. He hoped thus to convert him from the use of projected, to the employment of direct light.

Since March 14th, 1899, several urethroscopes had been devised. He must say that he was glad of it. This renewed interest in urethral diseases so manifested could prove only of benefit to the advance of their study and improvements in their treatment.

DR. CHETWOOD said that every workman could do better work with the instrument with which he was most familiar; that Dr. Otis naturally had a preference for the instrument he had designed. He could not, however, recognize the objections that Dr. Otis had raised to the instrument he had shown here at the previous meeting and in any case he thought those objections were offset by the somewhat cumbersome attachment required. There seemed to be a certain advantage in getting the light as close to the lesion as possible, if lesion existed, and he had not found that the lamp, being so small, had been an obstruction to working in the urethra. If it did not throw any better or probably as good a light as the Otis instrument, the lamp of which was much larger, it afforded a sufficient light, as he had demonstrated upon a patient before the Section.

As Dr. Valentine had stated in regard to the burning out of the lamps, he did not find it to be of frequent occurrence. When it did happen it was not necessary to send the instrument to the factory; it was quite a simple matter, —every instrument being supplied with an extra lamp,—for anybody without much mechanical skill to unscrew the set screw and substitute another lamp.

DR. PEDERSEN said he was more familiar with the projected light than with the direct, and it seemed to him that one or two unjust criticisms had been made against Dr. Otis's instrument. One criticism made was, that one could not manage an instrument designed as his was by holding it by the handle this way, when attempting to find lesions in the urethra, or when moving the end of the tube here and there to put the inspected area on the stretch, etc. That was true, but there was a way of holding the instrument, he thought, which overcame that difficulty. In demonstrating the instrument to classes of six, eight and sometimes more students, he had been able to hold the instrument very steadily at one point while the students looked down the tube, by taking the instrument between the index finger and thumb of his left hand at the point where the lamp was fitted to the tube, thus steadying both the tube and the lamp, the remaining fingers of that hand being used to steady the penis. That it was not easy to do he admitted; but it could be done, and not only when the instrument was held in a vertical position, but also when brought down at an angle.

Another criticism was that you had to look "around a corner" in order to see down the tube. You did not have to look "around a corner." That was an impossibility. What you had to do was to look past an edge or along a surface. He tells the students to look along the length of this lamp, as though they were sighting along a gun-barrel. One not accustomed to the instrument does not know how to direct his sight in order to see down the tube readily, until shown how by some such instruction.

An objection was made to the size and weight of the lamp attachment in the Otis instrument. Any such objection is entirely overcome by mounting the lamp by means of a ball and socket joint on the end of a flexible arm arranged to slide up and down at will on a vertical rod attached to the wall of your office. What between the ball and socket joint, the perfect flexibility of the horizontal arm, and our ability to raise and lower it along the vertical rod, the lamp can be brought into every possible position, and the light turned in any direction desired. The left hand manages the endoscopic tube alone, and the right hand after fixing the lamp in position is free to use the applicator.

The appliance just described could not be used, of course, at a patient's house. Fortunately, it so happened they were not called upon very often to endoscope a patient at his house. When such occasions had arisen, they had used Dr. Otis's instrument. Hereafter for that purpose they would use either it or Dr. Chetwood's, which was certainly a very attractive instrument; but as he had said, he was not very familiar with the working of the latter, whereas with the Otis he had had some experience.

To avoid getting his hand into or near the line of sight, the speaker said he used an applicator bent at right angles about $2\frac{1}{2}$ inches from one end, thus forming a sort of handle to the longer part.

DR. SWINBURNE thought that Dr. Otis should be congratulated upon his new improved light, which he thought was a vast improvement over his old urethroscope, of which the speaker was a strong advocate until these more recent lights

came out. He had used the old Otis lamp for a number of years. There are times when one feels he would like to have a projecting light as well as the direct light, and he finds that it is a useful instrument to have in addition to those with the direct light. However, as far as the white light producing a different reflex from that produced by the weaker lamps, it simply means that as soon as you become familiar with the new strong light you are able to make all due allowances for any difference which this bright light produces. The old dull light with which formerly we were obliged to familiarize ourselves, possesses a different light reflex from that produced by the new direct lights, and when we begin to use these direct lights it takes some little time to become familiar with the endoscopic picture. So, too, if the light from this new instrument produces too brilliant a reflex, it seemed to the speaker that this is the very thing we have so long been seeking for, so that can hardly be used as an objection.

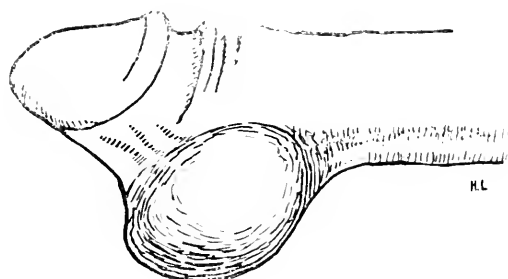
DR. OTIS said he should like to say in regard to the weight of this instrument, which seemed to be the principal objection which had been brought against it this evening, that it seemed strange to consider this instrument cumbersome, weighing as it does about an ounce, especially when we think of the original Leiter instrument which created such a furor in 1887, and which weighed $7\frac{1}{2}$ ounces. As a matter of fact he had found that the instrument when constructed of aluminum was too light, and not so comfortable an instrument to use. The whole working apparatus was simply a lamp and a lens and a urethroscope of that character could be constructed, if desired, which would do all that this instrument does and weigh but a few grains. It was made of brass and of its present weight simply because it seemed to him to be about the right weight, and there was plenty of room in its construction either to decrease or increase its weight as suits the individual. As regards the longer handle also, that was simply an individual idea, which from inquiry he had found seemed to suit the majority of urethroscopists the best, and as a matter of fact the instrument which he used largely himself had no handle at all. He thought also that the amount of the visual field taken up by the instruments which introduced the lamp into the tube was of considerable importance when small tubes were used, and it would take very delicate handling when blood or pus was present to prevent daubing the lamp, rendering its removal necessary at the time and a possible source of infection afterwards; and he knew positively that others who had used this instrument had also found this difficulty a very serious one.

In regard to Dr. Valentine's objection, that the field was *too highly illuminated* by his instrument,—in other words that he had over-solved the problem which had always been the chief difficulty in urethroscopes,—the remedy was the very simple one of turning the light down.

Presentation of a Sebaceous Tumor or Cyst.—DR. LILIENTHAL said that the specimen he presented was a sebaceous tumor or cyst, from a patient thirty-one years old, who said it was noted shortly after birth. It grew slowly, until when the speaker first saw it, about two weeks ago, it had formed a tumor the size of a very large olive, occupying the under part of the prepuce just behind the

frenum. It was putty-like in consistency, and presented the appearance shown in the accompanying illustration. The tumor was easily removed through an

FIG. 1.



incision under local anesthesia with eucaine and the wound packed. It healed in a few days. These tumors rarely reached the size of this specimen.

DISCUSSION ON DR. LILIENTHAL'S SPECIMEN.

DR. SWINBURNE: There was an exactly similar case at Bellevue Hospital in Dr. Alexander's service very recently and the tumor had existed since the patient was four years old and had been tapped several times. Apparently the composition of the tumor had not been recognized, for had it been the logical method of removing it would seem to have been to amputate it. This would have left a comparatively small cutaneous wound to be sutured. That is probably what will be done in the case. The tumor was situated in the tip of an elongated prepuce.

DR. H. LILIENTHAL then read a paper on "**Catheterization of the Healthy Ureter Through an Infected Region.**" See page 108.

DISCUSSION ON DR. LILIENTHAL'S PAPER.

DR. OTIS said that this was an exceedingly interesting point and one which appealed to all who were catheterizing the ureter, that there might be a certain amount of danger in passing the ureteral catheter. At the same time it was so exceedingly important to know before operating that the remaining kidney was healthy, and that was the only way he knew of in which one could be absolutely certain of that fact. All the methods which Dr. Lilienthal had advanced for finding that out were certainly important means of diagnosis, but they did not give the absolute certainty that the kidney was healthy which was obtained by catheterizing the ureter itself. The same was true of the Harris instrument and method of collecting the urine from the separate kidneys,—it did not give a definite result in all instances and was therefore unsatisfactory.

He did not think Kelly, of Baltimore, who had catheterized more ureters than any one else, had found the danger of infecting the healthy kidney in that manner a serious one. At the same time the possibility of setting up a nephritis by the ureteral catheter must be admitted and should be avoided if possible.

He had recently made some partially successful attempts to obtain the urine from female ureter by means of an apparatus which consisted of an ordinary

urethroscopic tube with a very dull lower edge, the upper end being closed with an air-tight glass cover, which could be removed easily. The tube was introduced into the bladder and the end placed over the opening of the ureter, the glass top then put on and the tube exhausted by means of a connecting rubber bulb, the urine collecting in the tube.

He was still endeavoring to perfect this instrument.

DR. BREWER said that the subject was one of great personal interest to him for until Dr. Lilienthal called his attention to the dangers of this procedure he had not given the matter much thought, and had certainly not appreciated the risks. If we could be sure of the condition of the other kidney by any other means it would be a great advantage, but we cannot. On the whole he was inclined to believe that, in any given case where an infection of the bladder exists, and the history and result of physical examination point to one kidney as the source of the infection beyond any reasonable doubt, there would be less risk to the patient to act upon the information furnished by these means, rather than to incur the risks which would necessarily accompany the catheterization of the healthy ureter.

DR. VALENTINE congratulated the Section on having so valuable a paper brought before it. Dr. Lilienthal had concreted what literature and experience must have brought to all their minds and which was foreseen six years ago by Israel, who said that the struggle for priority in ureteral catheterization would increase the work of the kidney surgeons. There was more than a gleam of hope in Dr. Lilienthal's paper, that the future might bring to us the means of positively aseptic work in the upper and lower urinary passages; his brilliant paper would be remembered as a beacon to that most desirable end.

DR. LILIENTHAL said that Dr. Otis had told them that it was his belief that catheterization of the ureter of a presumably healthy kidney would give us accurate information concerning the kidney and its functioning power. He did not agree with Dr. Otis and would call to their minds that the catheter in the ureter would not necessarily demonstrate the existence of a neoplasm. The removal of the other kidney might in such an event actually shorten the patient's life. If either kidney were to be removed it should then be the one in which the evidence of disease was least marked or perhaps not noticeable at all.

Another point was that the mere qualitative examination of the urine was not all that was necessary. A quantitative examination, important as it often was, could not be obtained from specimens withdrawn by the ureter catheter.

The Harris instrument the speaker said he had not mentioned at all since it was so often inaccurate that it should be used for the purpose of presenting confirmatory evidence alone.

If Dr. Otis would invent an instrument to withdraw urine from the female ureter by suction he will have done a very good thing. It was to be hoped that he would also be able to produce some method for accomplishing this in the male as well.

He agreed with Dr. Brewer that if a kidney was so diseased that it was necessary to remove it, we might as well take the natural chances of the operation and in cases of doubt cut down and assure ourselves that the other organ was present and not hopelessly diseased as well. Indeed, this expedient had, he thought, been suggested by Israel.

Selections.

CUTANEOUS DISEASES.

Multiple Epithelioma Developing upon Lupus Erythematosus.—J. J. PRINGLE (*British Jour. of Dermat.*, XII., 1900, p. 1).

The case is illustrated by two exquisite water-color drawings, and presents a rare occurrence in the clinical history of lupus erythematosus. The woman, 36 years old, was under the author's observation for the last nine years. When she presented herself for the first time—she had been for many years previously under the observation of Dr. R. Liveing—she was suffering from lupus erythematosus, which was localized on her face and nose, but chiefly on the scalp. Seven years later she returned presenting a new feature. This consisted of a raised, nodular, hard, irregularly outlined growth with elevated, punched-out, undermined margin, and ulcerated center, situated in the right posterior parietal region and about the size of a five-shilling piece. Above and close to it was a similar but smaller growth, the size of a shilling. Both growths were surrounded by some induration and were extremely tender. A slightly enlarged gland was detected deep in the sub-occipital triangle on the same side of the neck.

The growths and gland were removed and large Thiersch grafts from the arm were applied which took well. Three weeks afterward a broken down nodule behind the ear gave rise to a deep ulcer, which also was excised and covered with Thiersch grafts.

Nine months later the patient reappeared in hospital with fresh epitheliomatous manifestations, situated over the right occipito-parietal suture, posterior to and unconnected with the scar left by the previous operation. The growths were again removed and grafts applied. A year later she was admitted for the fourth time with fresh epitheliomatous ulcers.

The results of the previous operative procedures were perfect, sound cicatricial tissue replacing the large flaps of skin removed, none of the new foci of disease arose from the margin of these cicatrices but all were situated at a considerable distance from these. On the other hand the lupus seemed to show increased activity. The diseased parts were again removed with satisfactory results, but nine months later new ulcers appeared.

The author gives a drawing presenting the histological features of the disease (Galloway) and mentions four other cases.

Hyperidrosis Spinalis Superior.—PROF. M. KAPOSI (*Arch. f. Derm. und Syph.*, 49, 1899, p. 321).

In February, 1899, a fifteen-year-old boy was admitted into the Dermatological Clinic of the hospital, suffering since his sixth year with continuous sweating on the upper portions of the body. The boy's father died from inflammation of the lungs, the mother is living and well, and a brother died with a disease, the nature of which was unknown to the patient. When ten years of age the patient

was affected with a skin disease in the region of the neck, probably furunculosis, which was operated upon. Three years ago the patient fell on the back of his head, but was not taken ill till a year later when he suffered with disturbances of the stomach combined with severe headaches.

According to the statements of his mother the tip of the boy's nose was continuously covered with sweat when he was one year of age. Since his eighth year sweat appeared on other portions of the body, sometimes in a continuous, sometimes in an occasional manner, in the following order, cheeks, neck, shoulders, and lastly arms and breast. He has had kyphoskoliosis since his eighth year.

In summer he sweats comparatively little, the lower extremities perspiring more freely. In winter he perspires more. During physical strain the sweating is greatly diminished and the patient feels only a sensation of warmth. The patient made the observation that when he takes a cold bath he will sweat severely, while in a warm bath the sweating will appear only slightly. Each attack of sweating is preceded by a sensation of a cold shiver, immediately after which the sweating begins, and this always takes place when the patient exposes himself to cold. If the patient, being exposed to cold, enters a warm room or takes warm tea, the sweat will disappear after half an hour. In a cold temperature the sweating continues as long as the patient is under its influence and it stops half an hour after his entrance into a warm atmosphere. When covered in bed and after partaking of warm nourishment he sweats little.

Since his eighth year the area of sweating continues to be the same as present. [The author gives two drawings showing the localization.]

The present status of the patient:

Cranium, hydrocephalic, kyphoskoliosis, the reaction of pupils, cornea, and field of his vision, normal; contraction of muscles, normal; sensation of pain, warmth and cold, normal. The patellar reflex increased. Hands and feet cold. Cyanotic; heart and lungs normal. Urine 1200 c.cm., neither albumin nor sugar.

After a series of very ingenious experiments and observations in order to verify the foregoing statements, and to determine the relation of sweating to blood vessels, and to establish whether the irritation, which causes the sweating, is of peripheral or central origin and exclude the participation of the sweat glands, the author comes to the conclusion, that the hyperidrosis is due to an irritation in the vasomotor centers in the gray substance in the lower region of the spinal cord of neck and upper breast, and probably higher.

The nature of the irritation of that region can only be hypothetically stated. He excludes the possibility of a neoplasm, but admits the possibility of hydro-myelia, and this is supported by the presence of hydrocephalus and kyphosis in the patient.

Sarcomata Idiopathica Multiplicia Pigmentosa Cutis. (Kaposi.)—ROBERT BERNARD (*Arch. f. Derm. u. Syph.*, 49, 1899, 207).

The author, giving histories of two cases which were observed in Dr. Elsberg's ward, reviews the literature and gives a detailed account of the histology of the disease. The first case related by the writer is worthy of attention owing to the fact that it represents clinically all the phases of development of the tumors. In that case there simultaneously appeared spots which in the beginning had a smooth appearance, giving rise gradually to small nodules which consecutively grew larger, while on other portions of the body the nodules underwent absorption under the influence of arsenic. The author gives a detailed histological description.

Rhinoscleroma.—S. RONA (*Arch. f. Dermat. u. Syph.*, 49, 1899, p. 265).

According to the author Hungary occupies the fourth place (Russia, Austria, Central America) among the countries in regard to the prevalence of rhinoscleroma. He gathered histories of twenty-one cases of rhinoscleroma there. He directs the attention of the reader to the fact that the regional lymphatic glands may be affected by the process, although it is not mentioned in many text-books and articles dealing with rhinoscleroma.

In the case given by Róna both submaxillary glands were enlarged, and hard. The microscopical examination of the removed glands showed a subacute inflammatory process, and from the lymph of the glands pure cultures of the rhinoscleroma-bacillus were obtained, while he failed to get bacilli from the lymph and blood of the neighboring and healthy regions. The venous blood of the patient was twice examined and in both instances no changes could be seen, nor could bacilli be then cultivated on cultural media. The author inoculated the left ear of the patient with lymph obtained from a wound of the lip without result. Four weeks after inoculation no abnormality could be seen.

Two Cases of Epidermolysis Bullosa with Consecutive Atrophy of the Skin, Epidermic Cysts, and Changes in the Shape of the Nails.—S. RONA (*Arch. f. Derm. u. Syph.*, 50, 1899, p. 339).

After giving a clinical account of two cases the author considers the question of the identity or non-identity of pure epidermolysis bullosa hereditaria, and epidermolysis bullosa hereditaria traumatica. From the study of the cases published the author draws the conclusion, that although the two diseases present many analogies yet there are too many pregnant clinical differences between them to consider the two affections as due to the same process, especially lack of published cases of pure epidermolysis bullosa hereditaria the connecting link and the presence of trophic changes in individual members of a family affected with epidermolysis bullosa hereditaria.

Pityriasis Lichenoides Chronica (Psoriasiform-Lichenoid Exanthem).—FRITZ JULIUSBERG (*Arch. f. Derm. u. Syph.*, 50, 1899, 359).

To the five cases published since those of Jadassohn and Neisser, the author adds clinical histories of two new cases with histological details. He draws the conclusion that pityriasis lichenoides chronica is a disease limited only to the skin, not evoking any disturbances in the general system; its etiology is unknown. The primary lesion presents an elevation from a head of a pin to a pea size, with slight inflammatory infiltration. In the beginning it has a smooth surface, no scales and only later a slight scaling is noticed. No vesicles, pustules or moisture are ever present. The trunk and surfaces of the extremities are usually affected, remaining disseminated. Subjective symptoms are absent. The disease never disappears spontaneously nor are there any remedies known which favorably affect it. Microscopically, the lesions present a combination of parakeratosis with very slight superficial circumscribed inflammation of the skin.

Lichen Annularis: A "Ringed Eruption of the Extremities."—JAMES GALLOWAY (*Brit. Jour. of Derm.*, Vol. 2, 1899).

Patient suffered from a chronic inflammatory disease of the upper layers of the skin, associated with increase in the overlying epithelium, commencing as a nodule spreading peripherally, and healing in the center, without suppuration

or any rapid form of degeneration, and forming a border which is raised above the surrounding skin. The border is smooth, it is not reddened, but has the aspect of a deep-seated infiltration of the skin. The area of the skin enclosed within this outline is to all appearance normal, although it has been affected in a manner similar to the lesion forming the raised border. On careful examination it is observed that the enclosed skin is distinctly altered, slight signs of atrophy that of lichen planus, while the mode of progress of the disease simulates that joints is usually affected.

The nature and distribution of the inflammatory infiltration resembles closely that of Lichen Planus, while the mode of progress of the disease simulates that of certain other conditions whose toxic origin is better described.

These lesions vary in the amount of congestion present, their duration and the clinical appearances they present. It is possible that gout and rheumatism are the underlying causes which produce some of the examples of this cutaneous malady.

The author gives a brief summary of 13 cases already recorded, and in some degree resembling the condition of his own patient.

Pemphigus Chronicus Vulgaris of the Larynx and Mouth.—F. H. BRYAN (*New York Med. Jour.*, 1899, pp. 775).

According to the author his case is the third case published by American authors. It happened in a woman, who, on being examined with the mirror, revealed a small white membranous deposit about a quarter of an inch in diameter on the laryngeal surface of the right half of the epiglottis. The membrane beneath was red, but it did not show any loss of substance such as is met with in the various forms of ulceration that affect the mucous membrane.

Frequent outbreaks occurred in a short time, the membranous deposit making its appearance on one-half of the epiglottis, disappearing in a few days to reappear on the other half. Under the microscope the membrane showed a fibrinous deposit containing numerous round cells but no epithelium; staining with Gram's method showed a large number of cocci, but no bacilli. An examination of the blood showed nothing abnormal.

SYPHILIS.

Cases Illustrating the Contagiousness of Inherited Syphilis.—LOUIS KOLIPINSKI (*Maryland Medical Journal*, 42, 1899, p. 300).

The writer reports two cases of inherited infantile syphilis, where the contagion was transmitted in both cases to grandmothers who took care of the infants.

In the first case the chancre was located on the inner dorsal border of the base of the terminal phalanx of the index finger of the right hand, in the second case on the palmar extremity of the right ring finger. In both cases early manifestations of syphilis followed.

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Original Communications.

A CONTRIBUTION TO THE HISTOGENESIS OF MELANOSARCOMA OF THE SKIN.

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THE histogenesis of melanosarcoma of the skin has been in the last few years the subject of a lively controversy. The opposing theories are entertained, advanced respectively, by Unna and Ribbert. It was the earlier opinion of pathologists that a melanosarcoma may originate, as does every other sarcoma, from any place in connective tissue, and is distinguished only by the pigment, which is formed by the tumor cells; in other words, a melanosarcoma was classified as a species of sarcoma. The first investigator to contest this opinion was v. Recklinghausen, who asserted that pigmented naevi and the melanosarcomata arising from them, originate only from a particular variety of connective tissue cells, namely, from the endothelia of lymph vessels and clefts.

An entirely new theory was advanced by Unna in 1893, who claimed that melanosarcoma of the skin does not originate from connective tissue at all, but from epithelia, which at some time have been cut off from their original site and have become surrounded completely by connective tissue. Hence Unna insists that these tumors must be classified as melanocarcinomata and not as melanosarcomata. To quote from him: "Alveolar carcinomata of the skin are rare; a part of these are the carcinomata originating from naevi; that is, the naevi carcinomata." The tendency of these tumor cells to detach themselves from the surface epithelia and to form alveolar nests is the result of

a metamorphosis, or, as Unna calls it, "metaplasia," of the epithelial cells. Another proof of their epithelial origin, according to Unna, is the total absence of any intercellular substance. He admits that an error in the diagnosis is possible, because of the fact that the distribution of the pigment occurs independently of the proliferation of the epithelial cells, so that the connective tissue may be studded with pigment before there is any appearance of epithelial proliferation; this may easily lead to the deceptive conclusion that connective tissue elements form the tumor. Unna claims further to have seen in pig-

FIG. 1.

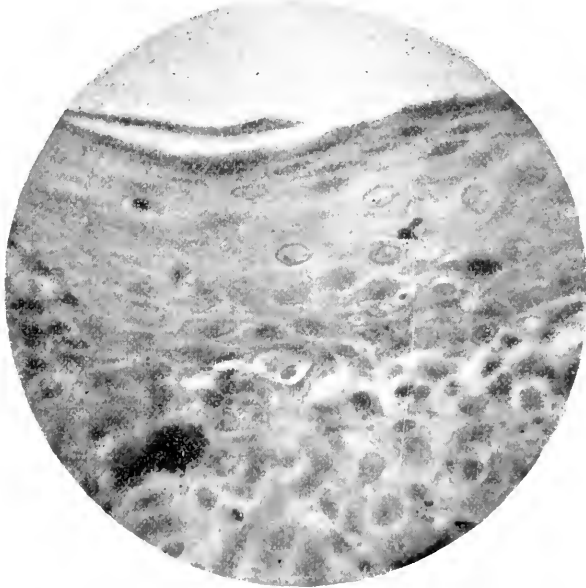


Fig. 1. Section of melanosarcoma of the skin. Hematoxylin and eosin stain. Showing a chromatophore in the epithelium and one in the subepithelial cell nest. (x 1000.)

mented naevi of new-born children the gradual separation of the naevi cells from the surface epithelium and their metaplastic changes. He concludes: "Epithelial cells separate from the epidermis during embryonic development or in early infancy, and these cells, included in connective tissue, may thus remain latent until at some later time under the influence of some stimulus they begin to grow and form malignant tumors. These tumors can only be regarded as melanotic alveolar carcinomata."

Unna's opinion was later adopted by others, among them Krohmer² and Delbanco.³ The latter made his observations on one pig-

mented and one unpigmented naevus of a child, and describes the invasion of connective tissue between the epithelial pegs, whereby these pegs become fringed and thinned out, until they finally lose their connection with the surface and become entirely surrounded by connective tissue. These separated epithelia lose their prickles, so that they resemble the surrounding connective tissue cells, but still retain their vesicular, deeply staining nucleus and the polygonal shape of the cell body. These cells represent the typical tumor cells. Simultaneously with this process the connective tissue cells proliferate. "In old naevi,"

FIG. 2.

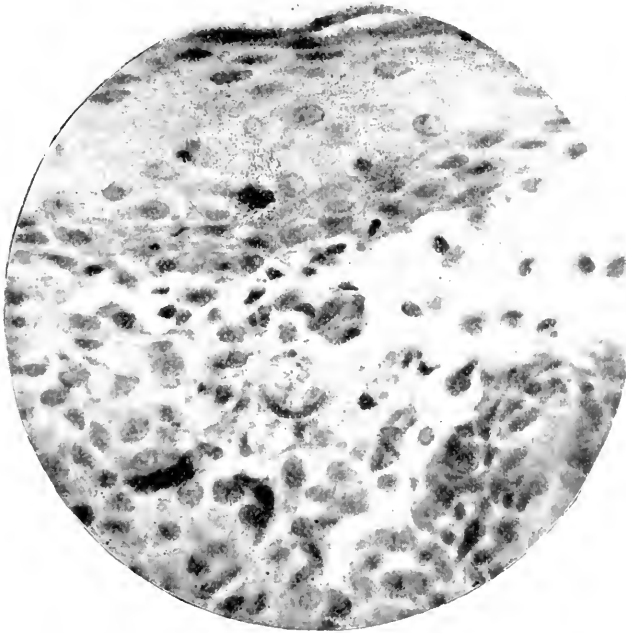


Fig. 2. Section of melanosaarcoma of the skin. Hematoxylin and eosin stain. Showing a chromatophore in the epithelium and several in the subepithelial cell nest. (x 1000.)

as Delbanco says, "this proliferation of connective tissue and the separation of the epithelia have come to a stand-still and the *status nascendi* can no longer be seen." In contradistinction to Unna, Delbanco observed lymph vessels inside of the nests of the naevi cells, with endothelial cells surrounding these nests, a picture which he explains as due to the growth of proliferating naevi cells into the lymph crevices. This probably caused v. Recklinghausen to look upon the endothelial cells as the matrix, from which the tumor originates. Delbanco believes, like Unna, that the pigment is not a determining factor in the genesis of the melanosaarcomata.

An entirely different view is presented by Ribbert,⁴ in whose opin-

ion melanosarcoma is undoubtedly of connective tissue origin; but, according to him, not every connective tissue cell can give rise to melanosarcoma, but only a specific cell *a priori* adapted for it. While other authors have previously held that the pigment and its distribution in the melanosarcoma was entirely independent of the growth of the tumor, Ribbert asserts that a melanotic tumor can only originate from a special connective tissue cell, which produces pigment, namely, the "chromatophores." Basing his arguments on the identity of the melanosarcomata of the skin and of the eye, Ribbert makes the following statement: "Since the pigment cells of the choroidea are characteristic in their shape and their production of pigment, and cannot be identified with any other connective tissue element, it is certain that the tumor cells also, which originate from them, must represent special cells that cannot be mistaken for the elements of any other sarcoma, even if they appear similar in their shape and type." Ribbert best demonstrated these chromatophores in teased fresh tissues of a melanosarcoma, where they appear as polymorphous branched elements, which contain pigment, variable in amount and distribution. Between these other cells are found, of a round or oval shape, with a coarser and denser pigmentation, which are identical with the cells above described, but are in a state of contraction. In stained specimens, where the branched cells may lie in a parallel arrangement, they may closely resemble a spindle-celled sarcoma. In older tumors the transitional stages are lost and the cells forming the new growth present themselves in simpler forms. "As melanosarcomata of the eye arise from the chromatophores of the choroidea, so the melanosarcomata of the skin arise from pigmented naevi, which represent proliferations of pigment cells." The difference in appearance between the chromatophores and the naevi cells, which latter are round and often free of pigment, is explained by Ribbert as due to their being in a different stage of evolution.

Gilchrist,⁵ in a recent publication on melanosarcomata and pigmented naevi, confirms Unna's views and says: "Since the epithelioid cells which make up the structure of the mole are of epidermal origin, any malignant growth springing from these cells should be regarded as of a carcinomatous and not sarcomatous nature."

Johnston,⁶ who made the histologic examination in Foster's unique case of congenital multiple naevus pigmentosus, also endorses Unna's conception as to the epithelial nature of congenital pigmented naevi.

To this discussion of the histogenesis of the melanosarcomata of the skin, full of interest as it is, to both the pathologist and the dermatologist, I desire to contribute the results of some observations, made

upon five cases, as follows: Two of pigmented nævi, two of melanosarcomata of the skin, and one of a melanosarcoma, and one of a melanosarcoma of the nasal mucous membrane. The last case, though not directly pertaining to the subject under discussion, presents some features of interest, which bear upon it. The specimens described were partly sectioned in series and were stained by various methods, such as hematoxylin-eosin, Van Gieson's stain, Weigert's stain for elastic fibers, and others.

Pigmented Nævus I.—If one examines this nævus under low power one sees that the epidermis has become flattened and thinned out, the papillary layer has entirely disappeared and interpapillary pegs are consequently not present. The epidermis consists of four or five layers of epithelial cells only. The epidermal have a round, vesicular nucleus, not very rich in chromatin, and a moderately large, more or less cuboidal, cell body. The basal layer contains a finely granular pigment. The sub-epidermoid layer consists of wavy connective tissue fibers, with a few nuclei only. Within it we find a tissue, composed of cells, which are of the character of embryonal connective tissue cells. The nuclei are vesicular, variously shaped, round, oval or fusiform. These cells form roundish, more or less irregular nests, in which large thin-walled blood vessels can occasionally be seen; any fibrillar stroma is not present. In some places the cells in the cell nests contain a large amount of coarsely granular brown pigment; some cells show one or more processes, and have the character of chromatophores. Free pigment is also found between the cells. Weigert's strain for elastic fibers shows that the finest terminal elastic filaments enter between the epithelial cells of the lowest layer. The pigment in these cells is more coarsely granular than in the layers above. Some of these cells deviate from the cuboidal or round to the branched and stellate form. In this manner the impression is conveyed that the stellate and branched cells are descendants of the pigmented cells in the epidermis.

Pigmented Nævus II.—This nævus shows in general the same structure as the first one, excepting that the cell nests found in the corium are distinctly surrounded by fibrous tissue, so that apparently real alveolar nests are formed, the same as are found in a true carcinoma. We find here likewise pictures which strongly suggest that the pigmented epithelial cells of the lowest epidermal layer proliferate between the elastic fibers into the connective tissue, become entirely surrounded by the latter, and assume, after a number of transitional stages, the character of stellate chromatophores.

Melanosarcoma of the Skin I.—The epidermal epithelium stretches

over the neoplasm in a thin, slightly wavy layer, covering a tissue consisting of cells, which look very much like epithelial cells, having large vesicular nuclei, not very rich in chromatin, and fairly large cell bodies of a round or oval, or more or less irregularly polygonal shape. This tumor tissue is fairly rich in strongly pigmented cells, which are fusiform or stellate in outline. The cell masses show a network of lymph clefts, around which the pigmented cells show a marked tendency to arrange themselves. This picture has evidently caused von Recklinghausen to maintain that melanosarcomata originate from lymphatic

FIG. 3.

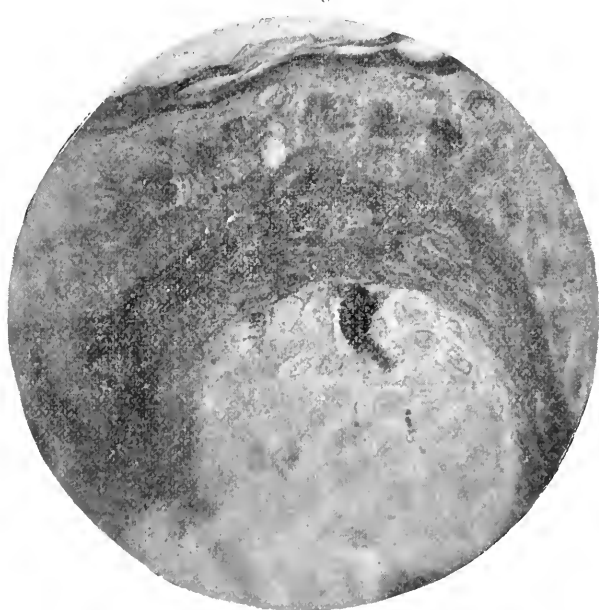


Fig. 3. Section of pigmented nevus. Carmin and Weiger's stain for elastic fibers. Showing pigmented epithelia; one deeply pigmented cell cut off from epithelium by elastic fibers; one typical chromatophore in cell nest. (x 1000.)

endothelium. In some places there can be recognized the same transition of the epidermis to the characteristic pigmented cells of the tumor proper, as has been described above for naevi.

Melanosarcoma of the Skin II.—In this specimen the interpapillary pegs of the epidermis are rather larger in size; the prickles between the epithelial cells are distinctly visible in the lower layers. Pigment is found both in the epithelium as well as in the lower cells. The latter have no alveolar arrangement, but infiltrate the upper part of the corium in a diffuse manner. Fusiform connective tissue is not found

between the tumor cells, but is markedly increased in the lower part of the corium. This tumor is richly vascularized, and shows well the arrangement of the tumor cells around the vessels. This grouping of cell masses around the vessels gives the tumor the appearance of glandular structure. The endothelia of the vessels are sharply defined from the surrounding cells proper. Some of these latter, which are isolated from their connection with the main mass, show particularly well the resemblance to epithelial cells by their large polyhedral body

FIG. 4.

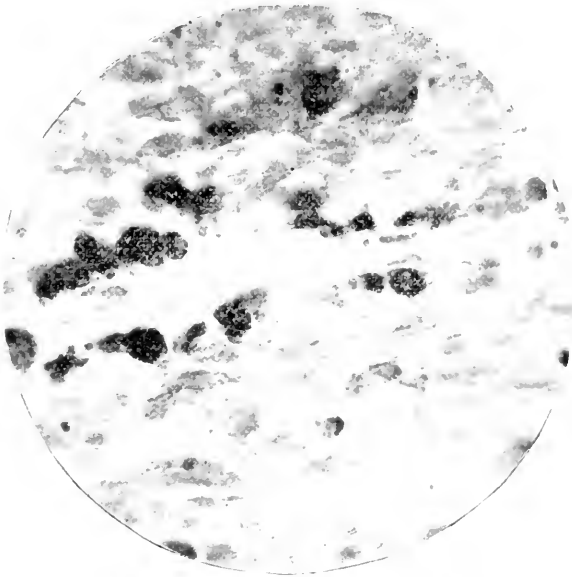


Fig. 4. Section of melanocarcinoma of the nasal mucous membrane. Hematoxylin and eosin stain. Showing perivascular arrangement of chromatophores. (x 1000.)

and vesicular nucleus; other cells are polynuclear giant cells of moderate size. Pigment is present in both the epithelial and connective tissue parts; in the former filling up the epithelial cells, but leaving their shape intact and their nuclei visible. The pigmented connective tissue cells present the type of chromatophores.

We desire to include in our consideration the histology of a melanocarcinoma, which does not properly belong to the melanocarcinoma of the skin; it is one of the nasal mucous membrane, and is here included in our discussion because its structure appears to furnish some very valuable points. Unfortunately, this specimen comes from a

tumor recurring after the first removal, and consequently does not enable us to demonstrate beyond doubt where the tumor originally started from. But in examining it carefully it presents every evidence of having started from the surface epithelium. In the superficial part of the tumor we find typical alveolar nests, surrounded by fusiform connective tissue cells. The tumor cells have a large vesicular nucleus, very rich in fine granular chromatin, with quite a large polygonal cell body. They show a good deal of polymorphism; occasionally cells are seen which contain two, three, or more nuclei. A large percentage of the tumor cells contain a dark-brown pigment; the pigment granules are of medium size. In the deeper parts of the tumor, pigment cells are also found in the interalveolar connective tissue septa, where they assume the character of chromatophores. They become stellate and the pigment granules are much coarser than those found in the cells of the cell nests.

In other parts the chromatophores are found to be situated on the outside of vessel walls; it appears that they have proliferated and formed in places quite extensive tumor masses around the blood vessels. In this manner the impression is created that we are dealing with an endothelioma, and this impression is still strengthened by the fact that such tumor masses around vessels infiltrate the neighborhood in a diffuse manner, the cells themselves becoming fusiform or more or less of the character of chromatophores. It appears that the histogenesis of this decidedly heterogeneous tumor may be best explained as follows: The new growth started from pigment proliferated into the connective tissue, became entirely surrounded by it, lost their character of epithelia, assuming that of chromatophores; some of these wandered toward the vessel walls. Such an assumption appears to be reasonable in view of the observations of Jacques Loeb, who found in fish embryos that the chromatophores show a special affinity for blood vessels and creep to their walls. This observation, made several years ago, has been confirmed by others. It is, therefore, not at all astonishing, but quite as we might anticipate, to find a similar occurrence in a pathological process. In the nasal tumor above described the cells proliferating around the vessels give those parts in which this process is going on very markedly the appearance of an epithelioma. If, however, we compare this nasal tumor with the pigmented naevi and the melanosarcomata of the skin, we must strongly incline to the conception above, namely, that this melanotic tumor is of epithelial origin, showing transitional stages in an unusually well-marked manner.

If, now, in conclusion, we attempt to formulate an opinion as to the histogenesis of melanosarcoma of the skin, we must concede that the

final decision is by no means easy, but fraught with many difficulties. But it appears that the standpoint taken by Unna and followers is probably correct. Melanosarcoma of the skin do arise from pigmented epithelial cells of the epidermis: these cells proliferate into the connective tissue and become entirely detached from the epidermis; still further proliferating, after having been cut off, these cells lose their epithelial character and assume that of ordinary connective tissue elements and that of those particular pigmented cells known as chromatophores. This view, that epithelial cells may undergo such a metaplasia under pathological conditions, is not at all improbable, since L. Loeb⁶ has experimentally demonstrated that such a change may take place, when epithelia are implanted into connective tissue. L. Loeb⁷ has also stated in another paper that chromatophores of a typical character originate from epithelial cells. Concerning the pigment we have found that it is finely granular and not very dense in the epithelial cells from which the melanotic tumor arises. The pigment becomes more coarsely granular, the more pigmented cells assume the character of connective tissue cells, more particularly that of chromatophores.

In conclusion, I wish to express my thanks to Dr. Maximilian Herzog, to whom I am indebted for the material and for kind suggestions.

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Chicago, Ill., 34 East Washington Street.

NOTES OF THOUGHT ON MALIGNANT TUMORS.

BY B. H. BUXTON, M.D.,

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IN the text-books we find minute descriptions of the histological details of the various kinds of malignant growths. We read that carcinomas consist primarily of epithelial cells, and secondarily of a connective tissue stroma bearing blood-vessels and lymph-channels; that sarcomas consist, as a rule, of masses of embryonic connective tissue cells, between which is more or less intercellular substance, and among which are numerous immature blood-vessels, but no connective tissue stroma or lymph channels; that exceptionally, however, connective tissue stroma may be developed in sarcomas; the resulting alveolar arrangement resembling that of the carcinomas, from which, however, they differ in that intercellular substances can be detected by special methods of staining.

It is also remarked that carcinomas, as a rule, form metastases via the lymphatics, and sarcomas via the blood vessels. We can, however, find no, or but meager, attempted explanations of why these things are, and this is perhaps as it should be, since text-books are only supposed to state facts for the instruction of students, and not to promote theories. Still the stated "facts" are so often incorrect, that some theorizing even if also incorrect, could do little harm, and would certainly make the books more amusing.

There are various theories regarding the etiology of malignant growths. Virchow's original dictum was "that no man can tell what a tumor is, or why it arises," and Cohnheim was the first to suggest a plausible reason for their formation. He supposed that tumors arise by the growth of certain misplaced embryonic fragments of tissue, and instanced in support of his views the frequency with which tumors arise at developmental points of junction.

It was soon found that Cohnheim's theory was untenable, except in a few possible cases, as, for example, the hypernephromas arising from suprarenal rests in the kidney, and the adenomyomas of the uterus arising from rests of the Wolffian body (von Recklinghausen) and the parasitic theory as upheld by Ruffer and Plimmer in England, Pfeiffer in Germany, and San Felice in Italy, came to the fore, but at the present time is generally discredited in favor of the "disturbance of balance" theory, first enunciated by Weigert for regenerative processes and

worked out for neoplasms by Ribbert—an idea which, as a working hypothesis, seems to be the best hitherto offered. According to this theory, certain tissues, becoming weakened from atrophic or other changes, are unable to exert their normal physiological resistance to other neighboring tissues which have retained their vigor, with the consequence that the cellular elements of the latter multiply rapidly and lawlessly.

Quite recently Lambert Lack has evolved the idea that once epithelial cells have broken through their basement membrane, they are able, without receiving any previous impulse, to multiply indefinitely in the lymph spaces and channels, thus giving rise to malignant epithelial growths. Lack certainly appears, in his single experiment, to have produced carcinoma in a rabbit by slicing its ovaries and allowing the cells thus set free to distribute themselves throughout the peritoneal cavity.

Hauser and others, on the contrary, maintain that there must be some previous biological change in the cells which enables them to multiply and act like parasites.

Whatever the original impulse given to the cells may be, there can be no question but that they do act as parasites in malignant tumors, growing at the expense of the normal tissues, setting up fresh foci of infection at various points (metastases) and elaborating certain products which are toxic to the organism.

Regarded from this point of view, the reasons for many of the structural peculiarities observed in malignant growths can be accounted for more or less satisfactorily.

Before proceeding to consider the reasons for these appearances, it will be well to have clear in the mind certain points in the development of the embryo, and regeneration of tissues, so that a short résumé of these may perhaps be permitted.*

After the establishment of the three primary germ layers, ectoderm, entoderm, and mesoderm, all of which are epithelial in character, there is serous effusion between the two outer layers and the middle one, so that the latter becomes separated from the two former.

Cells now detach themselves from the mesoderm, and by amoeboid movements, penetrate into the serous effusion or mesenchymal fluid, in which at first they wander freely and rapidly multiply; elaborating mucin, which, mixing with the serous effusion so thickens it that the cells are no longer able to wander, but become fixed; constituting, with the mesenchymal fluid, the embryonic mucoid tissue into which blood vessels penetrate freely. For the most part these mesenchymal cells

*See author's article in February Journal.

develop into connective tissue cells, forming by their products bone, cartilage, fibrillar or adipose tissue, according to circumstances, but do not themselves become very highly organized so that with a change of environment they can change their characters and functions accordingly.

This point is of importance in considering the regeneration of tissue. After injury or invasion by parasites there is hyperemia and increased serous effusion. Leucocytes penetrate the vessel walls, and in some way or other, probably by breaking down the intercellular substances, act as preparatory agents for the regeneration, which is effected by means of the fixed connective tissue cells. These finding themselves free in a fluid medium resembling the mesenchymal fluid of the embryo, take on ameboid movements (Ziegler, Arnold, etc.) and, in the absence of normal physiological resistance to their increase, rapidly multiply. Blood vessels quickly penetrate, even as they always do in the embryo, wherever there are masses of mesenchymal cells: the whole forming the embryonic-looking granulation tissue.

As the breaches become filled up the normal resistance to indefinite multiplication of the cells again comes into play, and the granulation tissue becomes organized, forming connective or scar tissue.

These processes have been fully investigated by many writers on the subject, and the above description seems to be a fair epitome of their observations, but they, for the most part, so far as can be ascertained, agree that in regeneration the cells assume an embryonic character—*Rückbildung* of most Germans, *anaplasia* of Hanseman—an unnecessary conclusion, since it is sufficient to suppose that the conditions in which the cells find themselves resemble those existing in the embryo, and they simply behave in accordance with those conditions. The rôle they play is a passive, not an active one, so far as the return to embryonic conditions is concerned.

In considering the formation of malignant tumors, we must suppose the latent proliferative power of the cells to have been aroused in some way or other; the cells, owing to supernormal vigor on their part or sub-normal vigor on the part of other cells which would naturally resist them, multiply rapidly and lawlessly, acting in the same way as parasites of external origin.

In the carcinomas we find epithelial cells which have developed into parasites, and as a natural consequence the organism reacts against the invasion. Along the line of advance of the epithelial cells there is, on account of the irritation, hyperemia and round-cell infiltration with consequent softening of the tissues: the connective tissue cells thus set free multiplying just as they do in regenerative processes, and forming fibrillar connective tissue, into which blood vessels penetrate

and in which lymph spaces are formed. But, whether we agree with Lack and believe that normal epithelial cells can increase in lymph spaces and channels on gaining access to them, or whether we hold with Hauser that there must have been some previous biological change in the cells to enable them to do this, it is an undoubted fact that the cells in malignant epithelial growths can so increase that the formation of connective tissue containing lymph spaces is no bar to their development, as it would be in the case of ordinary invasion by external parasite, but on the contrary simply adds fuel to the fire.

Malignant epithelial tumors being of comparatively recent origin, we can only conclude that the organism has as yet found no adequate means of resistance, its ordinary methods of defense which it calls into play being worse than useless.

As the newly formed lymph spaces open up communications with the regular lymphatic channels, the epithelial cells readily penetrate into the latter, and being carried along with the current, can again begin to grow and form metastases as they come to a standstill in the lymph nodes or in lymph spaces elsewhere.

In the sarcomas we find masses of cells of connective tissue origin playing the part of parasites, but there is no connective tissue stroma, so that the alveolar arrangement observed in carcinomas is absent. There is, therefore, apparently no reaction against the invasion on the part of the organism, and the reason for this probably lies in the fact that those very cells which would naturally be called upon to play the part of defenders, are themselves the invaders, and in active revolt, so that the organism finds itself unable to make an attempt at defense.

These masses of immature cells constitute a condition resembling that of the mesenchyme of the early embryo, so that newly formed vessels penetrate in all directions among the cells, just as they do in the embryonic mesenchyme and in the granulation tissue of regeneration. The immature vessels having thin, ill-formed walls, the sarcoma cells can easily break through and be carried along in the blood current, the majority probably perishing, but those which survive forming metastases at any point where they may happen to come to a standstill, as in the spleen or the minute capillaries of the lung, in which organs sarcomas are specially prone to set up metastases.

The alveolar sarcomas, *i.e.*, those which possess connective tissue stroma, present certain figures of special interest, and will be considered at somewhat greater length.

They occur principally as the melano-sarcomas of the skin, and choroid coat of the eye, whilst occasionally, though far less frequently,

they are met with in the testis, and it will be sufficient to consider those arising in these two situations, as they rarely, if ever, occur elsewhere.

Pigment cells occur normally in the skin, in the corium as well as in the rete malpighii, though scarcely to be found in the former among the white races of man. Pathologically, however, they may occur in large masses, forming the pigmented moles or *nævi*, which not infrequently in later life give origin to the alveolar melano-sarcomas.

Up to a few years ago the general opinion was that the pigment cells of the skin are of connective tissue origin only, and by wandering into the rete imparted their pigment to the epithelial cells. Recent investigators, however (Post and Marc), are of the opinion that pigment is formed autochthonously by epithelial cells, though this by no means excludes the connective tissue origin of pigment altogether.

Post distinctly states that according to his observations, pigment may be formed both in epithelial cells of the rete malpighii, and in connective tissue cells of the corium, the pigment granules differing somewhat in appearance according to their origin.

It may be taken for granted, then, that certain cells of mesenchymal origin situated in the corium can form pigment, and tumors arising from them must be classed with the sarcomas, as the cells possess no epithelial characters.

Such cells become differentiated to perform their special functions at a very early stage of development in the embryos of lizards, cats, and birds, according to Minot, though no special observations appear to have been made in respect to the human embryo. Reasoning by analogy, however, it may be assumed that in the human species, also, pigment cells become differentiated from the ordinary connective tissue cells at a very early period, and do not in any way contribute to the formation of supporting structures, nor take part in regenerative processes.

On this account, when they, for some reason or other, begin to proliferate rapidly and lawlessly, the ordinary connective tissue cells make an attempt to shut them off, just as they attempt to shut off an invasion by epithelial cells, forming bands of connective tissue in advance, into which blood vessels penetrate and in which lymph spaces are formed. As in the case of carcinomas, this method of defense is useless, because the pigment cells apparently have the same power of growing in lymph spaces as is possessed by carcinoma cells, so that they enter the newly formed spaces, which they greatly distend on account of their rapid proliferation, thus presenting an appearance similar to that of the medullary carcinomas which they rival in malignancy.

Metastases are, as in the carcinomas, and for the same reason, formed via the lymphatics—"the lymph nodes in anatomical relation to the parts from which the tumor (melano-sarcoma) arises, enlarge and become infected"—to quote Bland Sutton.

The pigment cells being of a different nature from the ordinary connective tissue cells, blood vessels do not make their way in among the cell-masses, but confine themselves to the stroma; thus forming another point of resemblance to the carcinomas.

In the testis there occur in many animals, especially in cats, moles, and boars, large irregularly shaped pigment cells lying in the interstitial tissues. According to Hansemann, intercellular substance can be demonstrated between these cells by the Van Gieson stain, so he concludes that they must be of connective tissue origin, whilst Lockwood thinks that in the embryo he can trace their origin from the mesenchymal cells of the stroma. At any rate, even if they are derived from the epithelial cells of the tubules, as maintained by Klein, they have entirely lost their epithelial characters, and tumors arising from them must be classed with the sarcomas.

According to Hansemann these cells are visible in the human species in the later stages of intra-uterine life, and in children until the age of 14 or 15, after which they gradually disappear, and in the adult are scarcely to be found except in cachectic or certain other pathological conditions. In animals, in which they are specially prominent, they vary greatly in number at different periods, and he infers from this that they are not simply supporting cells but perform some special functions of an unknown nature.

There are certain round-cell sarcomas of the testis which under a low power look like carcinomas, but the Van Gieson stain and high powers of the microscope reveal a fine intercellular substance. The similarity of the cells to the interstitial cells is very striking and Hansemann concludes that these give origin to the tumors.

Such interstitial cells if not identical with the pigment cells of the corium are at any rate very closely allied to them, so that the same arguments as were used in explanation of the alveolar structure of the melano-sarcomas of the skin will apply to tumors arising from them.

Most, who, however, does not seem to think that Hansemann has proved his case as to their origin, shows that the alveolar sarcomas of the testis form metastases via the lymphatics: the retroperitoneal lymph nodes being involved in each one of the six cases reported by him.

To sum up, we find:

1. Carcinomas contain connective tissue stroma because there is an attempt at defense on the part of the organism.

2. Their increase is not prevented because the cells can multiply in the newly formed lymph spaces of the stroma.

3. Sarcomas, as a rule, contain no connective tissue stroma because they consist of the very cells which would be called upon to form it, and which are now in revolt.

4. Sarcomas contain numerous blood vessels because these always penetrate masses of immature connective tissue cells, whether in the embryo or the adult.

5. Certain sarcomas contain connective tissue stroma because the cells composing them are not ordinary connective tissue cells, so that the latter are able to attempt defense. The defense fails for the same reason as it fails in the carcinomas.

6. Tumors containing connective tissue stroma form metastases via lymphatics because the newly formed lymph spaces in which their cells are growing, open up communications with the regular lymphatic channels.

7. Tumors containing no connective tissue stroma form metastases via the blood vessels because the cells can easily break through the immature walls, whilst lymph spaces are absent.

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NEW URETHRAL INSTILLATION SYRINGE.

BY ANGUS McLEAN, M.D.,

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GENITO-URINARY surgeons who have done much intra-urethral work, such as inspections, applications, dilatations, etc., must approve of the advantages gained by the local use of cocaine solutions, as well as the benefits gained by the injection of a few minims of the strong astringent solutions into the deep urethra in chronic posterior urethritis. Many of the patients who suffer from chronic urethral troubles are extremely nervous, and usually are in great fear of being hurt. The proper amount of cocaine placed on the sensitive portion of the urethra, and most patients with a chronic urethral trouble have a sensitive area, will so anesthetize the tissue that ordinary instrumentation can be done without complaint from the patient. There are several different kinds of long-nozzled syringes used for this purpose; when they are in good condition they act well; but we all know how unsatisfactory and annoying they are when the piston shrinks and they otherwise get out of order; aside from this, it is difficult to keep them thoroughly aseptic; for the stronger astringent solutions used for injections in the deep urethra will corrode the metal and rot the leather of the piston.

For intra-urethral instillations I have devised a glass-cylinder-rubber-bulb syringe, which I have called the "urethral instillation syringe." It consists of a glass cylinder six and one-half inches long; the distal four and one-half inches of the cylinder is almost solid, having a small canal about the size of a hypodermic needle; the upper two inches of the cylinder is slightly larger, and has a large canal and resembles the barrel of a hypodermic syringe; the distal end of the tube is conical in shape with the opening of the canal in the center; the upper extremity has two ferrules around the external surface about

one-fourth inch apart, between which the neck of the rubber bulb fits, as shown in the accompanying diagram.

The barrel proper, the upper two inches, is graduated and marked from one to fifteen minims, the amount it contains. One-eighth inch below the second ferrule is a small opening through the wall of the barrel and this is guarded by a rubber band one-third inch wide, which encircles the tube; this band can be slipped down, the opening then acting as a valve.

Deep urethral instillations of a few minims of the strong astringent solutions, which is so often desirous, can be made with the instrument by bringing it downward and crowding back the pendulous portion of the organ. In using it, the end of the syringe is placed in the solution to be used, and the bulb compressed as is done with the ordinary eye-dropper, and the solution is drawn into it. When accuracy is desired, the amount can be regulated by depressing the rubber band over the opening, and allowing the air to enter until only the desired amount

DIAGRAM.



is retained. This is best done with the syringe in the horizontal position, for the fluid escapes very rapidly when the valve is open, and the syringe is held in a perpendicular manner.

Before introducing the syringe I dip it into sterilized water, or water from the hot-water faucet; this is sufficient lubricant for introduction, as the instrument is not large enough to receive any resistance from the normal urethra. When ointments, oils, etc., are used for lubrication, they prohibit the action of the solution by protecting the surface of the membrane, and especially so when an application is to follow the introduction of the syringe; the water does not interfere with the action of any solution, and is not sufficient in quantity to dilute it. The instrument is introduced into the urethra the required distance—in most cases this will be down to the membranous portion—the neck of the instrument is then grasped between the index and middle fingers with the thumb over the bulb; sufficient pressure is now made upon the bulb to force out the number of minims desired.

After the fluid has been expelled into the canal—that is, when more than three or four minims have been used—external pressure should be made with the finger of the free hand upon the urethra at

the point opposite the tip of the syringe before the instrument is withdrawn. If the pressure is taken off the bulb before the urethra is compressed, the solution will be drawn back into the tube, or if the instrument is withdrawn with pressure on the bulb before the urethra is compressed, a portion of the fluid will follow the instrument and be expelled at the meatus. If it is necessary to cocaineize the anterior as well as the posterior portion, the rubber band can be depressed after the desired amount is deposited posteriorly and the pressure taken off the bulb, the air then entering through the small opening in the wall of the barrel. The syringe is then withdrawn to the anterior portion and a few minims of the solution expelled by pressing on the bulb. The barrel holds fifteen minims of fluid, and when a four-per-cent. solution of cocain hydrochlorate is used, it is a sufficient quantity. Most authors place the maximum amount of salt to be used with safety in the urethra at two-thirds of a grain; there would be slightly less than this amount in fifteen minims of a four-per-cent. solution. When solutions of a less per cent. are used, a greater amount may be injected.

The "urethral instillation syringe" is always in repair and ready to be used. I have used one of these for several months without breakage, or any trouble whatever, and find it very convenient, satisfactory, and inexpensive. There is no trouble in keeping it aseptic, for it can be dropped into a sterilizer just as it is, and boiled for a few minutes at any time without affecting any part of it. The syringe is made in two sizes: eighteen and twenty French scale.

(This instrument is manufactured by the J. F. Hartz Co., Detroit, Michigan.)

Correspondence.

URETHAL LIGHT CARRIER.

ROCHESTER, N. Y., Feb. 27, 1900.

EDITOR JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES:

In your issue of this month you mention a new urethroscope presented by Dr. Chetwood, at the Genito-Urinary Section of the New York Academy of Medicine, which is said to avoid some of the disadvantages of the Valentine instrument. The principal trouble—that of the interference with the lamp in using a cotton-wound probe—remains, however, in the new tube as well as in the old.

Let me advise your readers who do not possess a urethroscope to exchange for or purchase a set of the tubes devised by Dr. Henry Koch, of this city (to



whom, by the way, is due the whole credit of the application of the heatless incandescent light to the purposes of urethroscopy). To any one investing in a new urethroscope, the Valentine, with Koch tubes, affords by far the best results.

I submit an illustration of the Koch tube, explaining the position of the light-carrier, in an auxiliary tube, underneath the main one, and connected with it by a window at the distal end. It thus gives a perfect light, without in the least obstructing the view or interfering with applications through the main tube. The urethra is as well lighted at the close as at the beginning, after making nitrate of silver applications along nearly its whole length, and the light never has to be withdrawn for cleansing during such applications. For electrolysis of the Littre glands it has proved the *beau ideal*. Even in cases where the urethra bleeds rapidly the light remains good for some time.

The makers, the Rochester Electro-Surgical Instrument Co., have recently modified the light-carrier so that the lamp is detachable and can be removed quickly if burnt out or damaged, and another one applied. Very sincerely,

E. WOOD RUGGLES.

Editorial Notes.

A COVER CHANGE.—From this issue it has been decided to place upon the cover a list of the JOURNAL's original articles with their contributors' names, following the established custom of many of our contemporaries. The practise has much to recommend it, particularly, as we have found, in reference to unbound volumes and for the convenience of the general reader. In order to do so, we regret that it will be necessary to omit the names of the distinguished men who have so kindly lent us their influence from the start of our venture.

ZAMBACO PRIZE.—The French Society of Dermatology announces that the prize of 1200 francs, offered by Zambaco Pasha, will be awarded for the best work on dermatology, syphilography or venereology in April, 1901. The essays must be sent under a pseudonym to M. Hallopeau, 91 Boulevard Malesherbes, Paris, before November 30, 1900. Contributors may choose their own subjects.

UNNA PRIZE.—The question set by Dr. Unna this year is "The Minute Structure of Primary Carcinoma of the Skin, giving special attention to the correlations between Epithelial Growth and Resistance of Connective Tissue." The prize is 300 Marks (\$75.00) and competition is open to all. Essays under a nom de plume must be sent to Leopold Voss, Hohe Bleichen 34, Hamburg, before December 1, 1900. The judges are Messrs. Hauser, Nauwerck and Orth. Dr. Unna gives (*Monats. f. prakt. Derm.*, 1900, p. 200) a review of the present status of this interesting question.

A NEW FRENCH DERMATOLOGICAL TREATISE.—The first volume of "La Pratique Dermatologique" appeared from the house of Mason & Cie., Paris, on March 5. It is a system, the authors being exclusively Gallic, men whose names are well known to us all, issued under the direction of MM. Besnier, Jacquet and Brocq. There will be four volumes, aggregating 3600 pages, illustrated in color and half-tone, and costing 140 francs (\$28.00). The work is sold only by subscription. We regret the announcement that there is no satisfactory classification and that the order will be simply alphabetical.

PRELIMINARY PROGRAM OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

The following papers have been promised:

Malignant Diseases of the Skin:

- (a). Classification and Clinical Features. Dr. E. B. Bronson.
- (b). Etiology and Pathology. Dr. M. B. Hartzell.
- (c). Treatment. Dr. F. J. Shepherd.

Two Cases of Rhinoscleroma and an Unusual Form of Epithelioma of the Scalp. Dr. C. W. Allen

Bullous Dermatitis (Dermatitis Herpetiformis?) in Children. Five Cases Following Vaccination. Dr. J. T. Bowen.

The Frequency of Parasitic Diseases of the Skin, and Measures Advisable for Limiting Their Spread. Dr. Thos. Corlett.

- Blastomycetic Dermatitis and Its Relation to Yaws. Dr. I. Dyer.
 Endothelioma and Angiosarcoma of the Skin. Dr. J. A. Fordyce.
 (Title to be announced). Dr. T. C. Gilchrist.
 Report of a Case of Multiple Tumors of the Skin. . . } Dr. W. A. Hardaway.
 } Dr. M. F. Engman.
 A Review of the Subject of Blastomycetic Infection of the Skin, with
 a Report of Three New Cases. Dr. J. N. Hyde
 Loss of Hair: A Clinical Study Founded upon 300 Private
 Cases. Dr. G. T. Jackson.
 A New Type of Cutaneous Tuberculosis. } Dr. J. C. Johnston.
 } Dr. B. Lapowski.
 Syphilitic Lesions of the Wheal Type. Dr. H. G. Klotz.
 Prophylaxis and Control of Leprosy in this Country. . . Dr. P. A. Morrow.
 Three Cases of Blastomycetic Infection of the Skin, One of Them
 Limited to a "Tumor" of the Lower Lip. } Dr. F. H. Montgomery.
 } Dr. H. T. Ricketts.
 A Case of Nevus-Cancer: Metastasis; Operation; Cure. . Dr. S. Pollitzer.
 The Etiology and Pathology of the Cutaneous Cancers. . Dr. A. Ravogli.
 A Case of Xanthoma Diabeticorum. } Dr. S. Sherwell.
 } Dr. J. C. Johnston.
 (Title to be announced). Dr. H. W. Stelwagon.
 Dermatitis Vesico-bullosa et Gangrenosa Mutilans. . . Dr. G. W. Wende.
 A Case of Brocq's *erythrodermie pityriasique en plaques disseminées*. Dr. J. C. White.
 An Unusual Phenomenon of Syphilis:—Othematoma. . Dr. Jos. Zeisler.
 A lantern-slide exhibit will be given, illustrating:
 (a) Some Clinical and Pathological Features of Malignant Diseases of the Skin and Other Infections. . . Dr. J. A. Fordyce.
 (b) Pathological Features of Cutaneous Cancers. . . Dr. A. Ravogli.
 (c) Clinical and Pathological Features of Six Cases of Blastomycetic Infection of the Skin. . . } Dr. J. N. Hyde.
 } Dr. F. H. Montgomery.
- There will be an exhibit by the members of photographs, paintings, drawings, microscopic sections, etc. The meeting will take place in the Hotel Gordon, Washington, May 1, 2 and 3, 1900. The sessions will be held morning and evening.

Book Reviews.

Diseases of the Skin. By GEORGE THOMAS JACKSON, M.D. Third edition. Lea Brothers & Co., New York and Philadelphia. 1899.

The third edition of the Ready Reference Handbook of Skin Diseases comes to us considerably enlarged, and, as the publishers' note says, it has been revised so as to represent the advances made in dermatological science since the appearance of the second edition in 1896.

The rapidity with which the editions have followed each other is a continued proof that the author knew the needs of medical students, for whom this work was primarily intended.

The criticism the first edition elicited regarding the alphabetical arrangement of the work has proven ill-founded; for a busy practitioner or medical student does not wish to concern himself with a classification, but to find quickly a concise description of the case in question.

The third edition has added sections on the newer affections of the skin; those on dermatitis from Roentgen rays, and blastomycetic dermatitis deserve special commendation, for in a few well-chosen sentences the author has given the sum of our knowledge of the subject.

In short, the book is one that should be recommended for use in our medical colleges, or to any one who has not the time to give to the deeper study of dermatology.

J. MacF. W.

A Practical Treatise on Diseases of the Skin. JAMES NEVINS HYDE, M.D., and FRANK HUGH MONTGOMERY, M.D. Fifth edition. Lea Brothers & Co., New York and Philadelphia, 1900.

This is the third edition of Dr. Hyde's book which has come into our hands for review since 1893, a fact which indicates a more than ordinary sphere of usefulness for it. Further, we have no hesitation in saying that the fifth is so incomparably superior to the preceding editions that it is practically a new work. The superiority lies not only in the addition of new matter which goes without saying in an art so rapidly advancing as ours, but also in elimination of out-worn products and feeble imaginings of other days. Nowhere should congratulation be more hearty than in the matter of illustration. The triumphal march of Kaposi's wood cuts through dermatological literature is at last becoming a rout. The authors cling to some of them still, but very few. Illustration in black and white is a fine art and wood cuts should be left for the reproduction of old masters.

The authors must have very nearly rewritten the volume. Almost every article shows evidence of retouching and greatly to Dr. Hyde's credit, be it said, he seems to have no more prejudice in favor of his own previous writings than for other men's. If something better appears, his views are modified forthwith. He has made material change even in opinions given so late as 1896 at the London Congress, on the question of the "Dermatoses of the Scrofulous."

There is only one recommendation we venture to offer—omit "statistical fre-

quency in America" and definitions of skin affections. Both are misleading (*vide* clavus) and the second, useless in addition, unless like Walker's definition of eczema, it adds to the gayety of nations.

J. C. J.

Progressive Medicine, December, 1899. Edited by H. A. HARE, M.D. Lea Brothers & Co., New York and Philadelphia.

This volume contains two epitomes of special interest to the JOURNAL's readers, Genito-Urinary Diseases and Syphilis, at least so the cover says. In point of fact there is no syphilis in the volume except meager mention in connection with disorders of various organs. Belfield ignores the subject although the index refers you to his article. There is no discussion of the disease in any of the four parts which, in view of its importance, is simply inexcusable. Moreover, the reviewer cannot escape the conviction that the sub-title was wilfully misleading. Belfield's work on the genito-urinary review is well done but, like Stelwagon in Part III., he does not avail himself of his privilege of criticism, often in experienced hands a greater help than any résumé, however good of an article. The volume closes with a chapter on Therapeutics by Thornton, who has done perhaps as well as space limitation permitted.

Gould's Pocket Dictionary. P. Blakiston's Son & Co., Philadelphia, 1900.

There have been large additions to the fourth edition of this volume: 9,000 new terms are defined, the increase being chiefly in the tables of poisons, eponymic tests and clinical terms. This fastening of men's names on diseases, symptoms, etc., should be stopped by law or we shall be swamped even with the dictionary at hand. No fuller measure of praise can be given to the author than he has already received, but congratulations on his success are in order.

Venerical Diseases. EDWARD L. KEYES, A.M., M.D. and CHARLES H. CHETWOOD, M.D. William Wood & Co., New York, 1900.

In spite of the many works which have been and will be presented to the profession on this subject, this book will be none the less welcome, and its influence will be what it should be, a wide one. While it does not pretend to treat the subject in hand exhaustively, it does bring it abreast of the times, and in it the authors have embodied what in their experience has proven of use. It is conservative in tone, thoroughly practical, readable and interesting, and the book is of a comfortable size to handle.

Gonorrhea and its attendant complications, chancroid and syphilis only are treated, and it is only in the chapters on gonorrhea and perhaps chancroid that there are any marked changes from the previous work.

The book is made practical in that many little details in examination and treatment which are so frequently taken for granted and which are often so expressed as to disappoint the reader who is looking for assistance in his own work, are here dealt with as if this were the real aim of the book. A case in point is the care with which the method of making the Gram stain is explained. The reviewer well remembers the search he was obliged to make before he was able to find out how to make it, and had he depended on books he would not be able to use the method to-day. The importance of making frequent microscopic examination while the patient is being treated is so great that a simpler method of mounting should have been given. The cover glass and balsam mount are superfluous and can be dispensed with.

Those who have learned to irrigate with a plain blunt nozzle will never be induced to try the complicated apparatus recommended by the younger author.

Page 9 gives us a glaring typographical error where it says that the gonococcus was first cultivated by Bumm in 1895. Errors of this kind are apt to be copied ad infinitum.

Page 29. The "method of forcing the resistance of the cut-off muscle" is spoken of. Those who attempt to irrigate the bladder from the meatus by forcing the cut-off muscle will quickly give up the procedure and most certainly condemn it. It is possible to wash out the bladder from the meatus without using force, and when this can be done it is a useful trick. It cannot be done in all cases.

Page 213. Speaking of chancre of the finger it is said that the epitrochlear and axillary glands are enlarged and indurated. It is a curious fact that not infrequently the epitrochlear gland escapes in chancre of the finger.

The chapter on chaneroid takes the only ground that can to-day be taken in a text-book, one of conservatism.

The chapters on syphilis and its treatment have hardly any changes from the older work.

We so often read "We congratulate the author on his book." We wish to change this here and say we congratulate the profession on this work.

A Text-Book on Genito-Urinary, Venereal and Sexual Diseases. By G. FRANK LYDSTON, M.D. The F. A. Davis Company, Philadelphia, 1899.

The author has given us a valuable and very readable work. He disarms criticism by stating in the preface, "I have embraced the opportunity herein afforded me for airing a few heresies of my own, in juxtaposition with as much of the accepted and standard teachings as it is practicable to present in a work chiefly designed for the student and general practitioner rather than the specialist."

He covers his ground as thoroughly as a work of this kind is meant to, and he brings a deal of experience to bear and has written himself into his book. Much that we would like to say here we shall reserve in the notice of Dr. Veckl's book.

We think him too severe a moralist when he would cut us off from both tobacco and dancing; how much of life's joys he must have missed for his attitude is that of one who has never experienced either.

We cannot help in reading the book remarking upon the effort carried to an extreme of shortening certain terminations of words—typic instead of typical is an unpleasant instance.

Seriously his book is very readable, easy of comprehension, and is a splendid book for the very class he himself says in his preface that it is intended for, the student and general practitioner.

Sexual Impotence, the Pathology and Treatment. VICTOR A. VECKL, M.D. W. B. Saunders, Philadelphia, 1899.

After reading this book we confess to a genuine disappointment, we fail to see that the author has succeeded in establishing a single scientific fact. He has handled some phases of the question with a certain boldness which will be misunderstood. His pathology is meager and thin and in the treatment there is nothing of value that is new—what is of value is only what is known already.

The most glaring error, and one which can only be productive of harm, is

the maintenance of the opinion that sexual continence is a prolific cause of impotence, though he also expresses a disbelief in the existence of the continent man. These two statements are hardly compatible, and are mere expressions of opinion without a single scientific fact to base either statement upon. Lydston in treating of this phase takes opposite ground, which we think every sane man should take, that no extended time of a state of continence can lead to impotence, barring, of course, extension of continence to the time when senility has arrived. No man has any right to state that sexual cleanness is productive of harm unless he is prepared to bring proof, and that proof must be absolutely convincing. If he urged early marriage no one could criticise him, but when he sanctions promiscuous indulgence he simply encourages a wider spread of those venereal diseases which are really conducive to impotence. And this brings us to another curious phase of this book and that is that the bearing which chronic gonorrhea has upon both sterility and impotence seems to have no place in the book. Yet this is undoubtedly the disease which is at the bottom of the majority of cases of this distressing disorder.

Another, to our mind, gross error is the statement that every pollution, no matter how wide the interval, is always pathological. The "loss of manhood" quacks will bless him.

Both he and Lydston seem to think that the quack literature in its horrible misrepresentation in lieu of anything better may be productive of good in the hands of the young if only to apprise them of the harm folly will work in them, but that harm is never a tithe of the injury that such literature has wrought upon helpless imaginative ignorance.

Die Litteratur über die venerischen Krankheiten. J. K. PROKSCH, of Vienna. Peter Hanstein, Bonn, 1900.

Supplement Band I. contains the literature from 1889-99 and additions from an earlier period. This has been a stupendous work and will be of the greatest use to every one who wishes to look up the literature on this subject. It is all there. The first portion of the book gives the titles of the papers or books on this subject with the author's names and at the end is an alphabetical list of authors with the number of the page or pages on which the titles of their works may be found. Such industry ought to be rewarded, but we fear that as in the case of the *Index Medicus*, few will take advantage of their good fortune. Those who do will bless the author in their prayers.

American Year-Book of Medicine and Surgery.—*Surgery*, GEORGE M. GOULD, M.D., Editor. W. B. Saunders, Philadelphia, 1900.

This work is a "yearly digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs and text-books of the leading American and foreign authors and investigators."

The book before us is the volume on Surgery, and such well-known names as Keen, Da Costa, Hirst, Dorland, Baldy, Gibney, Hansell, Burnett, Ingals, Hamann, etc., are among those who have conducted the compilation of this valuable form of work. The scope of the work is shown in the above quotation from the title page.

The Newer Remedies. VIRGIL COBLENTZ, A.M., Phar. M., Ph.D., F.C.S., etc. Third edition. P. Blakiston's Son & Co., Philadelphia. Price, \$1.00.

In these latter days when the practitioner is overwhelmed with "physician's samples" of the latest discoveries of enterprising manufacturing chemists, and

when the newest remedy (generally made in Germany) is much vaunted as a specific for a multitude of diseases, it becomes necessary to have the data concerning the "Newer Remedies" arranged in convenient form for reference. Professor Coblentz has admirably fulfilled this object in his book. Its value is established in the fact that it has gone to the third edition. It is to be regretted, however, that the type of the text is not larger. Otherwise the publishers are to be congratulated upon the make-up of the book.

W. C.

Handy Book of Medical Progress. By CHARLES WARRENNE ALLEN, M.D., and JACOB SOBEL, A.B., M.D. William Wood & Co., New York.

In their preface the authors state that "so rapidly do the advances in the various branches of medical science multiply, that one finds it an almost impossible task to keep abreast of the times without the aid of what might be called concentrated literature. * * * * The book includes the more recent and novel names of diseases, tests, methods, drugs, therapeutic and surgical suggestions, etc." This is the first specimen of "concentrated literature" that has come to the reviewer and it is not to his taste. It is neither flesh, fowl nor good red herring. The authors cannot be commended either in the conception of the volume or the selection of their topics or the exposition of their subject matter. A few references will make the meaning clear. Under Addison's disease, no mention is made of the internal secretion theory of its causation, the only thing new which has been brought out in years. "Adrenals—synonymous with the suprarenal capsules." Aphasia is defined as "loss of power of speech, due to a lesion in the cortex." We look, too, under the headings "Argyll-Robertson Pupil, Beri-beri, Bruit du diable, and Bulimia for new light, and are disappointed. And this only to the letter C!

Commonplace books rarely possess a general interest, and the volume before us is no exception to the rule. They are filled according to the bent of individual minds. The *Handy Book of Medical Progress* cannot be recommended either to the student or practitioner of medicine.

W. C.

Society Transactions.

NEW YORK DERMATOLOGICAL SOCIETY.

TWO HUNDRED AND EIGHTY-FOURTH REGULAR MEETING, DECEMBER 19, 1899.

JAMES C. JOHNSTON, M.D., *President.*

A Case of Generalized Necrotizing Granuloma.—Presented by DR. C. W. ALLEN.

The patient was a woman of eighteen, a worker in artificial flowers for the past four or five years. The present eruption had existed for three years upon the face, arms and legs, etc. There were two characteristic lesions undergoing necrotic changes, on the right palm. She had always been anemic, but had considered herself well. She had never suffered from cough. The face and arms

were pitted as though smallpox had existed. In this respect the affection was much like *acne varioliformis*. The lesions were mostly confined to the extensor surfaces. Some of the crusts were, so to speak, "set into" the ulcer, and in some lesions a slightly raised waxy border was to be made out. The affection was always aggravated as cold weather came on, as had been the case in at least two of Dr. Allen's former patients, presenting this peculiar and rather rare condition.

DR. P. A. MORROW thought this case resembled very closely one reported some years ago by Dr. Bronson under the name of *acne cachecticorum*.

DR. FORDYCE said the case just presented was identical in most of its features with the case of Dr. Bronson's reported under the name of *acne varioliformis* of the extremities of which he made a microscopic examination. The scar formation in the present instance was even more pronounced than in that case. The patient here presents some evidence of tuberculosis in the interstitial keratitis and the general cachectic look. The probability was that she had tuberculosis of the mesenteric or bronchial glands. "*Acne necrotica*" seemed to him a better name than "*acne varioliformis*," though the conditions were closely allied, if not actually identical.

DR. H. H. WHITEHOUSE thought the case corresponded clinically quite closely with what was generally termed *acne varioliformis*. This latter feature was even more marked in the present instance than in some of the hitherto reported cases of necrotic granuloma.

DR. S. SHERWELL said he believed the case was one of *acne* of the cachectic variety and *varioliform*. On examination he had not found any glandular enlargements, but he had discovered an excellent condition of the teeth, such as would not be presented by a strumous individual. The teeth were thickly coated with enamel.

DR. MORROW asked Dr. Sherwell whether he regarded this condition of the teeth as a contraindication of struma.

DR. SHERWELL replied that he did.

DR. MORROW observed that struma was very common in negroes, yet almost all of them had magnificent teeth.

DR. SHERWELL said that undoubtedly darkies, as a class, had good teeth, but he doubted very much if strumous darkies possessed good teeth.

DR. MORROW said that he had had occasion to note that tuberculous negroes had very fine teeth. He could not say whether this observation held good in cases of scrofuloderma.

DR. G. T. ELLIOT said that from a rather extended experience with negroes he believed Dr. Sherwell was right.

DR. SHERWELL said that he had laid considerable stress on this condition of the teeth. It was his custom to ask where the teeth had first appeared in his patients, and if the upper two incisors had appeared first he looked upon it as a very suspicious thing as regards the nutrition of the individual. This mode of eruption of the teeth certainly occurred very commonly in syphilitics.

DR. ELLIOT said that Parrot and others had shown that the Hutchinson teeth were not absolutely pathognomonic of syphilis and Fournier allows that there is not a single variety of deformed teeth attributable alone to inherited syphilis. The same dystrophies were just as often found to be due to tuberculous and strumous and alcoholic heredity.

DR. JAMES C. JOHNSTON said that a recent author had made a study of the teeth in 600 cases of general diseases, and had found in about 281 that the de-

formity of the teeth was due to tuberculosis, or to the associated malnutrition.

DR. G. H. FOX said that many spoke of notched teeth as being the result of tuberculosis or non-syphilitic conditions, but at the same time ignored the description given by Hutchinson. In a comparatively small number of teeth that he had examined, he had found that the true Hutchinson teeth—those with the single notches in the center—had never occurred except in inherited syphilis. Many cases of deformed teeth were often carelessly spoken of as Hutchinson's teeth. With regard to the case under discussion, he would say, that the name "acne necrotica" was probably a better one than "acne cachecticorum," if only because it was shorter and equally descriptive. In all of these cases one found lesions scattered over the extremities which, if limited to the forehead or temple, would be spoken of as typical acne varioliformis. Whether these two were to be regarded as the same disease was still questionable, though one could not help wishing to have the matter settled. The worst case of acne cachecticorum that he had ever seen he had presented to the society some years ago. In that one the man's face had been covered with what at first glance appeared to be an acne vulgaris. The pustular element had been very well marked, whereas in the case presented this evening that had been absent. However, the patient said that some time ago there had been pus. He was inclined to think that acne varioliformis, even when limited to the temple, was analogous to, if not identical with, cases of general necrotica.

DR. GEORGE T. JACKSON agreed with the diagnosis, but he questioned whether it should be called acne at all. He believed that in these cases the sebaceous glands were often not involved at all, and that it was not right to apply the term "acne" to any disease in which these glands were not affected.

DR. FORDYCE said that he thought the affection presented by this patient might involve the sebaceous glands. Its location was probably an accident. Acne varioliformis of the face did involve the hair follicles and sebaceous glands. The case described by Dr. Bronson and himself had begun about the sweat glands, and in the patient presented this evening it occurred in the palm where there were no sebaceous glands. The location seemed to him to be purely accidental.

DR. JOHNSTON said that he had succeeded in collecting 16 different names—for example, hydradenitis, acne necrotica, acne varioliformis, necrotizing chilblain, necrotic granuloma, etc. The process was undoubtedly a granuloma, as shown by the character of the cell exudation. It was also certain that in every case it was necrotic; hence, it seemed to him eminently proper to call it necrotic granuloma. The name necrotic chilblain, however, was not a bad one. He had studied two cases for periods of two and three years respectively. The condition invariably grew worse in cold weather owing to the blood stasis in the skin, giving the poison, micro-organism or toxin a better opportunity to work on the enfeebled tissues. He had taken out a very early lesion—one just barely perceptible under the skin. It had begun independently of every skin appendage. He believed that in all of them the location was accidental, exudation beginning about the plexuses of blood vessels at such points as the various appendages provide.

DR. MORROW asked if all granulomata were not necrotic.

DR. JOHNSTON replied in the negative, adding that certain tuberculous lymph nodes never become necrotic, although the general tendency of any granuloma is to necrosis. Acne was certainly a misnomer.

DR. H. G. KLOTZ asked whether we had to look upon the disease as an infectious one, and if so, whether infection takes place from the outside or was due to an auto-intoxication.

DR. JOHNSTON said he believed that all observers who had stained for micro-organisms in these lesions had failed to find any. Unna had claimed that micro-organisms must have found their way into the skin from the outside along the hair shaft, and that the lesion was primary there, but all other observers except Pollitzer claim that the infection reaches the skin from some point within. At any rate, the micro-organisms are found only in the surface layers just as in any other skin disease.

A Case of Healed Epithelioma.—Presented by DR. C. W. ALLEN.

This was the patient presented by him at the meeting of the society held only three weeks ago, who had since been treated by caustic paste.

DR. WHITEHOUSE thought the case would have to be observed a much longer time before any opinion could be expressed regarding its curability.

DR. FORDYCE took the same position. As regards the cosmetic effect, he thought the lip would have looked better if it had been cut out, but he understood the patient had objected to having any cutting operation done.

DR. MORROW said he was inclined to think from the induration present that the disease had not been entirely eradicated. He would look upon it with a great deal of suspicion. Of course, it was quite probable that some of the hardening was the result of the caustic application.

DR. ELLIOT said he did not think the epithelioma had been destroyed. He would advise Dr. Allen to leave it alone for two or three months, and then a better opportunity would be afforded for deciding upon the condition.

DR. JACKSON took the same ground as the preceding speakers.

DR. SHERWELL said that when he had first seen the case he had considered it a good one for a "V" incision, as this would have made a good looking mouth. It would, of course, be necessary to watch very closely for recurrence in the cicatrix, and if such were observed, to operate again. He recalled one case in which recurrence in the cicatrix had not taken place for about fifteen years. The operation had then been repeated, and the man had lived several years afterward, dying of some intercurrent disease at an advanced age, and without any recurrence of the epithelioma. The time from primary epitheliomatous manifestation must have been more than 25 years. The growth had been removed at both times from the lip by a good "V" incision.

DR. A. R. ROBINSON said that if this case were his he would make another application without waiting. There would be no harm in doing so, as the normal tissue would not be affected by the paste. He would use two parts of arsenious acid and one of gum acacia, and would leave it on long enough to secure the desired effect. This would not cause any further deformity, yet it would remove any abnormal tissue that might be present.

DR. MORROW asked Dr. Robinson if he took the ground that a paste of this strength would not destroy normal tissue.

DR. ROBINSON replied that it would not destroy normal tissue in the time necessary for the destruction of the pathological tissue. For a serpiginous epithelioma he would not use it in this strength. The majority of cases of epithelioma of the lip he believed should be operated upon, but there was quite a number that were preferably treated, in his opinion, with the paste. When they could be so treated the result was very much better than with the knife. He

was sure that Dr. Sherwell would remember the case of a surgeon upon whom the speaker had operated for a very severe rapidly growing epithelioma of the lip. That case had been cured without a particle of deformity.

DR. SHERWELL remarked that he had sent this patient to Dr. Robinson, and as his memory served the epithelioma had appeared to be very superficial.

DR. ROBINSON replied that about five months after the treatment of the surgeon a small nodule had been found, and had been dug out and examined with the microscope, and found to consist of a collection of epithelial cells—a cell nest. It was now ten or twelve years since then and there had been no recurrence. He had seen last year a small epithelioma on the right side of the lip. A very extensive operation had been made by a surgeon, yet a few months afterward there had been involvement of some of the submaxillary glands of the left side cervical glands below. He believed that in this case as in mammary cancer, the disease was often disseminated by the knife.

DR. MORROW asked if the last two speakers were not of the opinion that, in a certain number of these cases, there was what might be termed an epitheliomatous tendency, so pronounced that an incision carried as widely as possible beyond the morbid growth would still fail to effect a cure.

DR. ROBINSON replied that this was true in certain cases of superficial epithelioma, especially the pearly form and in multiple epitheliomata, but usually incisions were not carried far enough beyond the apparent margin.

DR. ALLEN said that the old gentleman whom he had shown here some years ago with multiple epithelioma of the face was a case in point. He had cured two epitheliomas, and they had remained cured, but others had developed on the other side of the face.

DR. MORROW said that he had had a patient with an epithelioma over the insertion of the sterno-mastoid muscle that had been operated upon at the Hot Springs and had not healed up. He had made a very wide incision in that case, and had removed one of the glands of the neck situated about two inches away. Although apparently cured the patient had returned with the whole surface fungating and, on the adjacent skin, were numerous milia. He had then operated for a distance of nearly half an inch beyond the diseased tissues on either side of the disease, passing up over the mastoid process and cutting out the periosteum. At that time a number of warty growths had been found on the back of the ear. On scraping away eight or ten of these he had found soft epitheliomatous tissue underneath. He did not believe that this man, who was sixty-eight years of age, could be cured.

DR. SHERWELL said that he saw a great many cases of cancer of the face, and was of the certain opinion that there certainly was an epitheliomatous tendency in people of advanced life. He would like to ask Dr. Robinson regarding the varying susceptibility of the tissues in different people to arsenical paste, as he could recall certain unexpectedly bad results from its use.

DR. ROBINSON said that the paste should never be applied with instructions to leave it on for a definite number of hours, but it should be left on only for a length of time sufficient to accomplish a definite result. He would not treat such a case without having the patient remain in his office the whole day and under constant supervision. The apparently diseased area should be rendered, so far as the naked eye could judge of its area, completely necrotic.

DR. MORROW said that in most instances the depth of application could be regulated by the thickness of the layer of ointment.

DR. JACKSON asked if it was safe to use the arsenical paste near the eyelid.

DR. ROBINSON answered that he had used it even in the canthus without bad results, but constant attention was necessary.

DR. ALLEN said that he had used it in the region of the canthus, and upper eyelid, with satisfactory result. He would rather trust to the paste than to the knife in this region.

DR. SHERWELL said that he had used the acid nitrate of mercury at the inner canthus, and had neutralized its action with carbonate of soda. He had also applied a 15 per cent. formalin solution to the lid, and also upon a flat epithelioma of the temple with the greatest benefit. It seemed to mummify these growths most satisfactorily.

DR. MORROW remarked that he had used a 4 per cent. solution of formalin in epitheliomatous growths, but it had always failed, in his hands, to mummify them.

DR. FOX said that some years ago he had had considerable experience with the use of arsenical paste in the treatment of small epitheliomata, but in recent years, as in all of the cases the inflammatory swelling had caused a great deal of pain, he had given up the use of the paste entirely. Epithelioma of the lip required excision in the great majority of cases. In most epitheliomata of the face he believed the curette should be used in the first instance. If the arsenical paste were used subsequently the reaction would be much less severe, and the scarring would be very slight. In some of the large epitheliomata of the face he had adopted this method, but was convinced that he had, in some instances, made a mistake, and that it would have been better in these cases to have resorted to the wide incision. The worst possible method of treatment was to apply some inefficient remedy which was not sufficiently powerful to cause early destruction of the epitheliomatous tissue. It was true that even in some superficial serpiginous epitheliomata small nodules might recur after use of the curette, but even if this took place it was very easy by the use of a small curette or dental burr to destroy these nodules under cocaine anesthesia.

DR. MORROW said regarding the use of potential caustics, that he did not think there was any special virtue in arsenic or any particular one. He almost invariably used chloride of zinc.

DR. ROBINSON said that he would be very much dissatisfied with the treatment unless he secured a good deal of swelling; his object was to swamp every lymph space in the vicinity with inflammatory lymph and toxalbumins. *Microscopical examination showed that the peripheral epithelial cells were entirely beyond the reach of the curette.* It was useless to apply an arsenical paste to an epithelioma that had started deeper down and covered with normal epithelium; the more or less normal epithelium must be destroyed over the pathological before applying the caustic. Acid nitrate of mercury and nitric acid would destroy all of the tissue with about the same rapidity, hence have no selective action and should not be used when arsenious acid can be employed.

DR. FOX said that he agreed thoroughly with the last speaker regarding the value of arsenious acid, because of its selective action, but even when it was used it was very much better, in his opinion, to employ the curette in the first instance.

A Case of Rodent Ulcer Involving the Lymph Nodes.—Reported by DR. J.

A. FORDYCE.

He said that it was generally stated that rodent ulcer did not involve the

lymph nodes, yet he had recently had a patient with rodent ulcer of the nose, and another typical rodent ulcer back of the ear. Both had been previously operated upon by curettage, and possibly by some caustic. In both cases there had been a recurrence, and back of the ear there had been also an enlargement of the lymph node. This he had excised, and microscopical examination had shown the presence of rodent ulcer.

DR. ROBINSON remarked that he had frequently known lymph nodes to become involved by rodent ulcer. It was rather difficult he thought to know just what writers meant by the term "rodent ulcer."

DR. JOHNSTON suggested that the absence of epithelial nests should be sufficient to differentiate rodent ulcer by microscopical examination.

A Case of Solid Edema of the Lip in a Syphilitic.—Reported by DR. G. H. FOX.

He said that he had recently seen a man with a swollen lip. The patient, who was thirty-five years of age, had had syphilis many years ago. For the past two years the lip had been swollen and superficially ulcerated on its inner side. One side of the lip had been a trifle larger than the other. He had made up his mind that the case was not specific in character, and it had improved under the use of iodide of starch and some simple ointment locally.

DR. ALLEN remarked that there was such a condition due to a chronic disease of the glandular elements of the lip, aside from those produced by syphilis.

DR. SHERWELL recalled a similar case in which he had looked upon the condition as one closely allied to elephantiasis. Treatment had not been very successful.

DR. H. G. KLOTZ recalled the case of a syphilitic girl whom he had presented to the society (Feb. 22, 1898, Journal XVI., p. 337). She had a peculiar swelling below the right eye and on the upper lip. The lip had improved decidedly under mixed treatment, which did not affect the other lesion.

DR. FOX said that his patient had been treated with anti-syphilitic remedies by well-known English physicians, but with little or no benefit.

A Case of X-Ray Dermatitis.—Reported by DR. G. T. JACKSON.

The patient was a woman who had been subjected to several X-ray examinations because of an injury to her arm. She had a dermatitis limited to one side of the face, apparently where the rays had played across that side. The skin was red and crackling, and the lid was swollen. Apparently the X-rays had not been focused upon the injured part, and the effect was due to a flowing over upon the skin of the edge, as it were, of the mass of rays.

UNNA'S UNGUENTUM DOMESTICUM.

DR. JACKSON exhibited some of this ointment. It is composed of 20 parts of yolk of egg and 30 parts of almond oil. A little Balsam of Peru was added as a preservative.

Endothelioma of Scalp.—Presented by DR. C. W. ALLEN.

This tumor of the scalp had been removed from a woman. It had looked like a small tomato set upon the scalp, and had suggested sarcoma. It had originated in a "wen," but was of cartilaginous hardness. After incision it had been found that within the sac was a firm homogeneous colloid mass. Microscopical examination showed it to be apparently an endothelioma. Spiegler has just

reported in the *Archiv für Dermat. u. Syph.* a number of such tumors, most of them multiple.

DR. FORDYCE remarked that he had recently excised an endothelioma which had developed on a lupus scar.

DR. FOX said that he had five photographs in his possession of similar tumors, one having been on the scalp, two on the cheeks, one on the thigh and one on the ankle. No microscopical examination had been made.

DR. ALLEN said that the interesting point was whether these growths were malignant or benign. As a matter of fact they would recur after excision just like an epithelioma.

DR. FORDYCE said that it was singular that these tumors, which exhibited microscopically such marked evidence of malignancy, did not prove to be so very malignant clinically.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Wednesday Evening, February 21, 1900.

W. K. OTIS, M.D., *Chairman.*

ORDER.

REPORT OF CASES.

1. Prostatectomy. Complete Recovery.—DR. A. B. JOHNSON.

2. Fibro-sclerosis of the Corpora Cavernosa.—DR. JOHN VAN DER POEL.

3. Stricture in a Haemophile.—DR. FERD. VALENTINE.

DR. JOHNSON being sick and therefore unable to be present, and Dr. Van der Poel also being absent, both these cases were presented by the Chairman, Dr. Otis, as follows:

DR. JOHNSON had operated on his case on the 15th of October. At that time this patient was very much run down and thin and had about 8 oz. of residual urine, which was infected. Dr. Johnson performed prostatectomy. The Chairman said he was present at the operation. A pubic opening was made without opening the bladder, removing the affected prostate through the perineal route. The patient made a good recovery and was now absolutely well. He is quite a different man now from what he was. He had seen him some weeks ago; his bladder emptied itself entirely. There was about 8 oz. of residual urine at the time of his operation. He is 60 years old; never used a catheter before. His urine was purulent at the time of the operation. The patient was here presented to the Section, passed his urine, and the specimen was examined. He has perfect control of the urethra.

In presenting Dr. Van der Poel's case the Chairman said it was a case of chronic inflammation of the corpora cavernosa. It was first seen Nov. 21, 1899. He contracted syphilis 9 years ago and was treated for four years internally.

Had rheumatism 5 years ago. No family or personal history of gout. No history of cancer. No history of traumatism. He had had gonorrhea 11 times. First noticed his present trouble 9 months ago, when about the size of a pea. When first seen 3 months ago the mass was about 2 centimeters in width by about the same in length, and less than half a centimeter in thickness; about 2 centimeters posterior to the glans; saddle shaped, lying equally over both corpora cavernosa. Was not tender or painful; closely attached to the corpora cavernosa only, but unattached to the skin and of the same firm, hard, cartilaginous consistency as at present. During the past 3 months it had somewhat increased in size and the septum in front of the growth was more easily made out. Erections were not painful nor was the organ twisted during erection. The urine contained no sugar nor albumen. Since first seen the patient had had an attack of acute gonorrhea and on that account had not been put upon iodide of potash until quite recently. This case was X-rayed by Drs. Johnson and Van der Poel the other day but there was no impression made on the plate, the X-ray having penetrated the plaque without being intercepted.

DISCUSSION ON DR. JOHNSON'S CASE OF PROSTATECTOMY WITH COMPLETE RECOVERY.

The Chairman said it was an exceedingly interesting one on account of the absolutely perfect recovery which was made; that was the principal point in regard to it.

DISCUSSION ON DR. VAN DER POEL'S CASE OF FIBRO-SCLEROSIS OF THE CORPORA CAVERNOSA.

DR. CHETWOOD asked the Chairman if there was any gouty diathesis.

The Chairman replied that the patient had been troubled with rheumatism, although Dr. Van der Poel said he had no history of gout.

DR. CHETWOOD said that these cases were first spoken of in French literature and the original edition of Van Buren & Keyes had the first record of cases of a similar nature in this country. Dr. Keyes had since observed several cases of the same condition. There seemed to be in the clinical history of a number of these cases either the gouty diathesis or diabetes. Dr. Chetwood had presented here last spring a post mortem specimen given him by Dr. Robinson, the pathological examination of which showed fibro-sclerosis and commencing ossification. This man had died of diabetes, but he noted that neither of these conditions existed in the case presented.

DR. KLOTZ said it was remarked by the Chairman that those cases were not so very rare. With this remark he fully agreed. He could now remember four cases which he had seen within a few years. In none of them was diabetes or gout present, and he could not find any other direct cause. Three of them were in elderly gentlemen, who if they ever had had gonorrhea it had long run its course and had not left any traces. He had never seen any favorable effect of iodid of potassium or other iodid preparations on this fibrous formation, but he was convinced that there was a tendency, in some cases at least, to spontaneous softening and partial involution of the fibrous substances. He had certainly noticed that the tendency to change the shape of the penis during erection grows less pronounced. He had had one case under observation in the German Dispensary twice last summer, a Persian carpet weaver, who was very anxious to have something done for the trouble, and used the 20 per cent. ointment of ich-

thyl, which was used very persistently and faithfully, and as he thought with beneficial results. The mass certainly seemed to be softer and apparently did not interfere with the practical use of the penis, as shown by the fact that the patient had lately acquired an acute gonorrhea.

The Chairman, Dr. Otis, said that, as Dr. Klotz had remarked, those cases were exceedingly rare, but seemed to have attracted very little attention. Those plaques were frequently found either multiple or single. They did not seem to occur perhaps more frequently in persons who had a gouty diathesis or who were troubled with rheumatism or syphilis, but the mistake had been made, as the microscopical examination of those plaques would indicate, that they were of a malignant character, which they were not. The clinical history of those cases was not one of malignant tumor although microscopically they had the form of endotheliomata.

[In one instance there was degeneration, metastasis, cachexia and death. Ref. Alexander's paper, *Journal*, June, 1897.—ED.]

Report of a Case of Stricture in a Hemophilic.—DR. FERD. VALENTINE.

DR. VALENTINE said he freely avowed he did not offer his case in the sense of presenting anything instructive to the Section. His object was to obtain instruction. He had jotted the essential features as they appeared to him, hoping they would be able to advise him regarding it.

The patient was an Austrian Jew, 28 years of age, waiter by occupation, and single. He had had several gonorrheas. One, after its conclusion in Constantinople, was followed by acute retention, lasting $1\frac{1}{2}$ days; a metal catheter was violently used and followed by some bleeding. Later on, in Germany, treatment was begun for stricture. A sound was passed once, followed very soon by chill and fever, which reached $105\frac{1}{2}$. He then desisted from all treatment until June, 1899, when he presented himself at the dispensary in quest for relief for difficulty of urination. He showed the evidences of suffering. He had a free yellowish-grey oozing from the meatus, which, however, manifested no evidences of a local inflammation at that point. He reported that his stream had been growing gradually smaller. He ejected a fine stream in his presence, barely more than minute drops, doubling himself as he did so and supplementing his vesical efforts by manifest abdominal pressure. Required at least 10 minutes to evacuate 100 c.c. of turbid urine. Exploration with the bougie-à-boule showed several bands and a heavy stricture at the membrano-bulbous juncture. After some difficulty a filiform 1 F. was passed. He attempted linear electrolysis, employing up to 15 milliamperemeters for 15 minutes and made no impression whatever upon the heavy deep stricture. The others were wide caliber and were easily entered by the bridge of the Fort linear electrolyzer. The filiform which he had left in since the day before enabled him to pass a 3 F. on the second day, which lay loosely in the urethra. On the following day he could easily pass a 5 F., which enabled the patient to emit a considerably augmented stream and empty his bladder far more rapidly than before. On the next day, a 6 F. lay easily in the urethra, and on the subsequent days, 7, 8 and 9 F. passed comfortably. He then desisted from the sonde-à-demeure and proceeded with gradually increasing sizes until 20 was reached. Then recourse was had to dilators, by means of which 29 was reached in 5 months. Meanwhile all difficulties in urination ceased; the patient could hold his urine for 4 to 5 hours and the bladder capacity proved to be very large,—450 c.c.

None of the instrumentation was followed by bleeding, fever or discomfort of any kind. He attributed this to gentleness of manipulation, careful asepsis of the hands and instruments, the employment of every means known to approach urethral asepsis as nearly as possible, and to cautious irrigations after each instrumentation.

On Nov. 14, 1899, the patient called at a time when all the dilators were being used in other cases. A 49 Guyon (equal to 24½ Charrière) was fairly dropped through the urethra by an experienced, careful assistant, Dr. T. M. Townsend. After withdrawal of the sound it was followed by a thin blood clot emitted in clear urine. Three hours later the patient urinated without pain or blood. Five hours later he felt blood escaping from the urethra. It soon saturated all his garments. He changed his clothes and at 8 P. M. called on him. He found the clothing he had put on ten minutes before drenched with blood; his shirt flap, drawers and trousers were soaked to his knees and a large stream of blood, with occasional long clots, poured from the urethra. A sound and tight bandage controlled the bleeding only apparently, as shown by the escape of blood around the sound. The psychrophore using 10,000 c.c. of cold water arrested the flow for only a few moments. Hot irrigation almost controlled it for half an hour. Splinting the penis and holding the splints with tight bandages did not arrest the bleeding, but only temporarily diminished it. After continual attempts for 3½ hours to control the bleeding, during which 16 large towels were saturated with blood, he tamponned the urethra with strips of iodoform gauze. The heavy bleeding stopped, but blood in minute quantities continued to ooze from the meatus for two weeks, as shown by small stains on the shirt-flap. These stains were proven by the microscope to consist essentially of red blood corpuscles, some pus, epithelia, many of the latter anuclear or faintly nucleated.

A week later, *i. e.*, 3 weeks after the bleeding, the patient complained that his stream had grown perceptibly smaller. He must here interpolate that during the hemorrhage the patient had told him, for the first time, that he was a bleeder. An operation performed a year ago on his nostril was followed by a copious hemorrhage, that was not controlled for 4 days, during which he became practically exsanguinated. He added that even trifling cuts were followed by copious bleedings.

Naturally instrumentation of the urethra was resumed with considerable hesitancy. It easily admitted an 18 F. flexible conical sound. This was followed by no bleeding. Inserting gradually larger sounds brought the urethra to easily admit a flexible conical sound 25 F. on Feb. 1, 1900, but there the limit of the meatus is reached.

The meatus is slightly epispadiac.

DR. VALENTINE said that his plan for further treatment, unless he received better counsel this evening, would be to resort to the very gentle use of dilators until as much of a cure as might be obtained in this case was secured.

Another feature of this case he had not found mentioned in literature. Out of 25 urinations 23 or 24 presented the following features:

The first 100 c.c. were heavily turbid.

The second 150 c.c. were clear.

The last 25 or 50 c.c. were sometimes turbid.

The emission of the first and second urine was interrupted only that fraction of a second which was required to direct the stream from tube 1 to tube 2. If

the turbidity were due to pus, it of course would be easy of explanation. But they were not, for the addition of nitric acid caused a violent liberation of gas and perfect clearing of the urine in a few seconds.

He would therefore be exceedingly gratified for at least an acceptable theory regarding the ability of this patient to emit heavily turbid phosphatic urine, followed immediately by clear phosphatic urine.

DISCUSSION.

DR. KLOTZ said that several years ago he had had occasion to see a case of severe bleeding from the urethra in a habitual bleeder, who was a patient in the German Hospital, but not under his personal treatment. He came to the hospital on account of constant oozing of blood from the urethra, several days after a sound had been passed by a physician in Hoboken. As far as the speaker remembered, applications of liq. ferri perchlor. were made through the endoscope, whereon the hemorrhage gradually ceased. He did not remember to have read of similar cases in literature.

As far as further treatment was concerned he did not see why Dr. Valentine was not satisfied with the progress he had already made. Dr. Klotz said he should consider the urethra wide enough for all practical purposes and he believed that if Dr. Valentine would only keep up the application of sounds, in gradually increasing intervals, he would get a good result in the end. He had found that strictures after reaching a certain extent could not be further dilated by stretching, but got more and more contracted the more efforts were made to introduce larger sounds. Later on he should not use any more sounds than would be absolutely necessary to ascertain the stability of the result attained.

DR. ELJOR said that some years ago he had occasion to see a case of urethral hemorrhage, not in a bleeder, but in a patient who was a comparatively young man, where it was clearly demonstrated that the passage of a hard steel instrument resulted in very serious hemorrhage. This patient, a man of 40, had been treated for stricture of the urethra by dilatation and during the passage of a F. 28 sound he suddenly began to bleed, both externally and internally. A small amount of blood oozed out of the external meatus, a larger amount of blood poured into the bladder, which became more and more distended until it reached a point very nearly opposite the umbilicus, and in that condition the patient was admitted to the Presbyterian Hospital. The usual procedures were tried to empty the bladder of the accumulated clots of blood, without avail, and, without the loss of additional time, a suprapubic cystotomy was performed and a very large quantity of clotted blood evacuated through the wound. After the emptying of the bladder its surface was searched for any bleeding point as well as for the possible existence of any varicosity. Neither were found. There was no subsequent hemorrhage. At the time of the operation the entire surface of the bladder was thoroughly cleansed, swabbed out, no blood accumulating within it. The patient made an uneventful recovery and he did not think he ever had any subsequent hemorrhage of any kind. He supposed in this case that the hemorrhage was due to laceration of the vessels in the posterior urethra and he thought it was of interest because the hemorrhage was so extensive, although no vessel of any large size was known to exist in the immediate proximity of this part of the urethra. It was also of interest, in that the loss of blood should have been so profuse, notwithstanding the pressure naturally exerted by the dis-

tended bladder upon the posterior urethra. Similar hemorrhages might occur in those patients who had large prostates, for, in these people, a varicose condition of the veins around the neck of the bladder and in the posterior urethra gradually developed. It was very difficult to say in the case reported whether the bleeding was of the venous type or the arterial type, although the quantity of blood was sufficient to distend the bladder to a very extensive degree.

DR. OTIS said that this question of hemorrhage into the bladder after urethral operations was an exceedingly interesting one. He remembered a case when he was in the hospital in which external urethrotomy was done. The wound healed by first intention practically; no tube was left in and the wound healed directly together, not by granulation as usually occurs. At the end of two weeks after the passage of a sound,—and the same sound had been passed several times in the meantime, the patient noticed some bleeding on making water. Later on this increased and shortly afterwards he complained of a desire to urinate and was found to be bleeding into the bladder. There was pressure by a pad made on the perineum and the bleeding stopped. As soon as the pad was released the bleeding began again, and for two or three days this bleeding continued whenever pressure was relaxed. A waist-band with a strong rubber bandage brought over the pad across from side to side underneath from a point up through tied on each side bringing pressure on the perineum. This controlled the hemorrhage, but he lost blood more or less all this time, in spite of this, during urination, and become somewhat exsanguinated. On the third day Dr. Otis said he was called to the ward, as it was necessary for him to have a movement; he was put on a bed-pan and the bandage released, relieving the pressure on the perineum; the bladder could be felt to rise right up under the hand from the hemorrhage into the bladder. The pad was immediately replaced and the next morning the perineal wound, which had grown together perfectly solid at that time, was cut down upon again, but nothing was discovered whatsoever. The patient was transfused but died from loss of blood practically within a few hours after the secondary operation.

In those cases it did not do to put off active surgical interference too long, and the first thing to do was to render the bladder entirely free from blood and clots. This was best done by introducing a large sized catheter, or a litholapaxy tube, and washing the bladder with a hand syringe of four or five ounces capacity and sufficient power to suck out clots. When the bladder had been cleared of blood and clots an attempt might be made to control the active bleeding by injections of a solution of suprarenal extract and pressure on the perineum, but if these did not act promptly the surgeon should resort to an external section and a thorough packing of the wound about a catheter (*canula chemise*), by which means any hemorrhage could be controlled.

DR. ERDMANN asked Dr. Valentine if he made an endoscopic examination, and if so, if he could see any oozing surface whatever in the anterior urethra, and, secondly, how long he left the tampon in?

DR. BELL, of Easthampton, L. I., asked whether it would not be advisable in cases of intractable hemorrhage from the urethra to use cutaneously or intravenously a solution of glue or gelatine?

DR. CHETWOOD said he was rather surprised at the fact that during the early manipulations of the urethra with dilators no particular hemorrhage occurred, and yet with a single passage of a sound there was a great deal of hemorrhage.

and it seemed to him as though there may have been an ulcerated surface that was abraded at the time when the last instrument was introduced.

In regard to the peculiar condition of the urine in three different flows, while he had not had an entirely similar case, yet had had one somewhat similar, in which the first flow was rather turbid, the second one less turbid and the third one most turbid, and all three cleared up on the addition of acid, which case was one of vesiculitis and prostatitis. His explanation in this case was that there being a very copious secretion of alkaline earthy phosphates, which deposited in the bladder, the first flow had evacuated a certain amount of the phosphates by the muscular efforts of urination, the second flow was clearer (entirely so in Dr. Valentine's case) on account of the deposit of the remaining phosphates by gravity in the bladder, the latter being passed out in bulk by the third flow.

DR. VALENTINE said he was exceedingly obliged to the Section for the kind discussion of his case and would like the privilege of laying still further before them the points which he manifestly did not make clear.

Dr. Klotz had suggested the application of the liquor ferri sesquichloridi through the urethroscopic tube. He did make an attempt to do so, but at every introduction of the tube it was immediately filled by the blood that welled up through it. Then there would be no call for a further attempt to examine the source of bleeding when the bleeding had stopped. Dr. Klotz had also suggested that the case should be satisfied with a urethra 26, with which he could urinate freely, and that consequently there was no reason for further pursuing treatment. But the misfortune is that the tendency, as is so frequent in the history of such cases, is for the urethra to recontract and to reproduce the difficulties of urination of which he originally complained.

Dr. Eliot and our Chairman had given us interesting cases of hemorrhage of the bladder. His did not bleed into the bladder, and second, their cases, as he understood them, were not hemophiles.

Dr. Chetwood's suggestion that the turbidity of the patient's urine might be due to seminal vesiculitis or prostaticorrhea was what guided him to examine the prostate and seminal vesicles in the hope of so finding the cause there. He would say that the prostate in resistance and in feel generally was normal and seminal vesicles,—at least he could not reach them, and therefore judged, that they were normal. Moreover he had no symptom whatever of that large train of symptoms that accompany these diseases.

The theory that the phosphates might gravitate to the bottom of the bladder was also offered by Prof. G. Frank Lydston, of Chicago, who saw the case in the speaker's office the day before yesterday. But it seemed to him unacceptable, as it did also to Dr. Lydston when they further discussed it. The final ejection of turbid urine in prostatic or vesicular involvement would explain it, but both prostate and seminal vesicles were healthy in this case.

Dr. Chetwood had also suggested—and quite properly—that such a bleeding as occurred in the speaker's patient might have been due to violent instrumentation producing an injury. Such an assumption was quite natural, considering that Dr. Chetwood was not acquainted with the work of his assistant. Dr. Townsend had now been with him over a year and he had always found him fully imbued with the need of the greatest possible gentleness in urethral work. If he erred at all, it would be in the direction of excessive gentleness, were such a thing possible.

In reply to Dr. Erdmann's query he begged to say that he packed the urethra

with strips of iodoform gauze, by means of a button-probe, and left the packing in situ 6 hours.

Another point of purely scientific interest was called to his attention by his friend Pro. John L. Dawson, of Charleston, namely that bleeders preponderate among the Jews. He stated this not only as a part of his own experience, but also referred him to Osler's Practice for further authority on the subject.

DR. OTIS, the Chairman, thought that the different turbidities were undoubtedly due to the fact that the whole urine was loaded with phosphates, which were precipitated by gravity, leaving the greater part of the urine clear. The first gush of urine carrying out a part of this sediment was turbid, clearing on the addition of an acid, the second portion consisted of the clear supernatant portion, while the last portion contained the greater part of the precipitated phosphates, was therefore turbid, and also cleared up on the addition of an acid. He did not know of any condition of turbidity resulting from disease of the prostate and seminal vesicles which was cleared up by the addition of an acid.

DR. KLOTZ said he had not the slightest doubt that the phenomenon of the different conditions of the first, second and third portions of the urine depended upon the gravity of the phosphates in the urine. He had paid particular attention to the conditions of phosphaturia almost ever since he began to practice medicine and was used to finding this difference in the cloudiness quite often. In one case, the most severe case, perhaps, he had ever seen, and the first one that attracted his special attention to phosphaturia,¹ the last portion of the urine when evacuated from the bladder would resemble the sediment of sugar, when so large a quantity of sugar was put in water that it could not entirely dissolve. As a rule, the different portions of the urine showed only different degrees of cloudiness, but he had occasionally seen that the second portion was clear.

Papers: 1. A Contribution to the Surgery of the Testicle.—DR. ELLSWORTH ELIOT, JR.

2. The Bearing of Alimentation upon the Excretion of Acetone.—DR. SCHUMAN LECLERCQ (of Carlsbad).

As abstracts of these papers could not be obtained, discussion is omitted.

¹Mentioned in a paper on "Phosphaturia," published in *New Yorker Medicinische Monatschrift*, vi., 45, February, 1894.

Selections.

CUTANEOUS DISEASES.

Embolism and Metastasis in the Skin.—L. PHILIPPSON. (Tommasoli's Clinic, *Arch. f. Der. u. Syph.*, Vol. 51, 1900, p. 33.)

The author directs his attention in this article chiefly to erythema, and endeavors to show that the angioneurotic theory, up to the present time prevalent in the explanation of erythema, has no foundation and can be dispensed with. Erythemas are not regarded by him as diseases, but as skin changes occurring during diseases of internal organs. He tries to substitute for the name of erythema as an efflorescence an inflammation of hematogenic origin, presenting metastasis in the blood vessels, an irritative process, like urticaria, showing edema only. Pathologically, he pictures the development of the erythema in the following manner.

The products of pus-producing inflammation may reach the skin through its blood vessels. The inflammation is of hematogenic origin and is characterized by a mild course giving rise only to hyperemia and edema, all other so-called inflammatory symptoms being absent. It disappears without producing any destruction of tissue. Usually the hyperemia is of a more pronounced character than the edema. In urticaria we see upon the skin a form of irritation of blood vessels which runs a milder course even than that just mentioned, the congestion or edema lasting several minutes or a few hours only. Histologically in such cases the emigration of cells and fibrin is lacking in the exudate.

The hematogenic inflammation may occupy whole regions, or appear only in isolated small islands. In the last case numerous isolated inflammatory islets develop, being scattered symmetrically over the whole body. The extensor surfaces of the extremities and the region of the scalp are usually the seat of the eruption. Hematogenic inflammation in the skin, the cause of which reaches the integument in the form of emboli gives rise, according to the cause, to pus-formation, necrosis, or granuloma. In hematogenic inflammation the changes of the vessels, such as stasis, thrombosis and inflammation of the walls of the vessels, can only be demonstrated microscopically. These inflammations are chiefly confined to the veins. A primary inflammation such as this of the veins of acute or chronic nature, is usually localized in the deeper layers of the cutis and subcutis, being clinically diagnosed as deep-seated nodules. The author gives eight personal histories of various skin diseases which corroborate his views.

The Condition of the Blood in Xeroderma Pigmentosum.—T. OKAMURA. (Kaposi's Clinic, *Arch. f. Derm. u. Syph.*, Vol. 51, 1900, p. 87.)

The author, who until now has occupied himself with examination of blood in skin diseases, has given particular attention to the origin and formation of eosinophil cells. In studying his three cases in Kaposi's clinic, he had also in view investigation of the formation of the pigment in xeroderma.

In three cases reported, the face, neck and upper trunk were occupied with

pigmentary spots and tumors. In all the cases the internal organs were found normal, nutrition satisfactory, except in the last case. The blood examination revealed in all cases an oligocythemia and a well developed leucocytosis. In the first case the amount of hemoglobin was 40 per cent (Fleischl), the relation of white to red corpuscles 1:89. The red blood corpuscles presented a well developed condition of poikilocytosis. Only few of them were of normal form. Leucocytosis was well developed being composed chiefly of neutrophil cells, a few mononeuclear, and still fewer eosinophil cells, the last hardly reaching 7 per cent. of all leucocytes.

In the second case, hemoglobin 65 per cent., relation of white to red 1:91. The poikilocytosis was not so developed as in the first case. The neutrophile cells were in greater number, the eosinophil cells giving only 9.2 per cent. of all leucocytes. There were only two small papilloma-like tumors upon the nose.

In the third case, the general condition of which was very unfavorable, presented 45 per cent. of hemoglobin, 1:51 white to red, poikilocytosis being very markedly developed. Among the leucocytes, both the neutrophil cells and the lymphocytes were well represented, eosinophil cells only 1.2 per cent.

The reason of the oligocythemia cannot be ascribed to the presence of the tumors in the patient, as even in carcinomata there is no such condition present.

Neither can it be explained by the assumption that the red blood corpuscles and the hemoglobin were used up for the formation of pigment.

In the author's opinion the oligocythemia is probably due to the changes of the skin produced during xeroderma pigmentosum. The function of the skin is greatly impaired, influencing the whole system, even the blood producing organs.

A Contribution to Pityriasis Rubra (Hebra).—DOUTRELEPONT. (*Arch. f. Der. u. Syph.*, 51, 1900, p. 109.)

He gives detailed histories of two cases of pityriasis rubra, which he had opportunity to observe for a long period. In the second case a relapse occurred in which the beginning of the development of the disease could be well observed. He obtained good results by applying a 20 per cent., then a 10 per cent., and lastly a 5 per cent. paste of salicylic acid externally and using carbolic acid externally, and giving carbolic acid pills up to 1 gramme daily, in graduated doses.

The histological examinations of sections obtained from the two patients confirm Jadassohn's findings regarding the migration of the pigment, which being formed in the cutis, is not transferred to the epidermis but is dragged into the deeper tissues owing to the chronic derangement in circulation.

According to the author, pityriasis rubra is a primary disease of the epidermis followed by secondary inflammatory infiltration of the papillae.

The Infectivity of Malignant Growths.—G. BELLINGHAM SMITH and T. H. WASHBURN (*Edinb. Med. Jour.*, Vol. 7, 1900, pp. 11).

After reviewing the theories of new growths the writers summarize the facts as follows:

Malignant growths may be regarded as local in origin, and as possessing the power of infection of adjacent and distant parts of the individual. (2) Inoculation may take place from one part to another of the same individual, apart from transference by the natural channels. (3) There is good evidence to show that

one individual may be infected with growth from another. (4) There is experimental evidence to show that growths may be transferred from animal to animal of the same species by inoculation. (5) There are found in many malignant growths bodies which have a resemblance to micro-organisms and which have been regarded as belonging either to the protozoa or to the blastomyces. (6) A new growth having the structure and also the behavior of carcinoma, has been described as arising at any rate in two instances from inoculation with a form of blastomyces. (7) These experiments suggest that the bodies found in cancer are the cause of the disease, though the evidence is wanting that definitely associates the two.

GENITO-URINARY DISEASES.

A Case of Suprapubic and Submucous Prostatectomy.—FORBES HAWKES, M.D. (*The Post-Grad.*, Feb., 1900, p. 168.) Dr. Hawkes publishes the history and operative procedure in a case of prostatic hypertrophy of unusual interest.

FIG. 1.

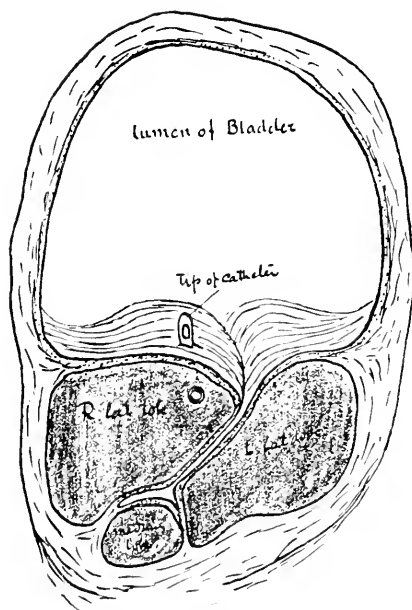


Fig. 1. Showing three lobes and tunnelling of R. Lat. Lobe by catheter. (From *Post-Graduate*.)

The patient was 71 years old, and his trouble had begun about 9 years before when he began to have increased frequency of urination, and his first attack of retention occurred 5 years later, which was relieved by a single catheterization. The second retention occurred one year later which was relieved by medication,

this relief seems to have lasted about 2 years, when he had another attack in December, '98. Catheterization was difficult and followed by bleeding, and this with the increasing vesical tenesmus rendered the patient's condition serious. He was then seen by the author for the first time, who passed a full curved prostatic catheter, and withdrew about one pint of a foul smelling urine mixed with blood, followed at the end with considerable amount of pure blood. By the rectum the prostate felt only moderately enlarged, but after emptying the bladder a solid tumor could be felt above the pubes extending into the pelvic cavity and apparently continuous with the prostate. The vesical tenesmus returned about

FIG. 2.

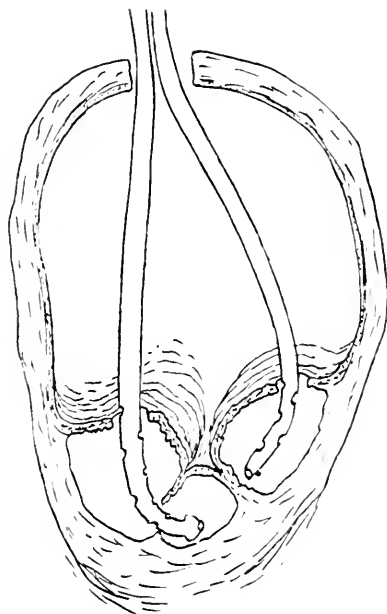


Fig. 2. All three lobes removed. Drainage-tubes in place draining pockets.

an hour after withdrawal of the urine and increased in severity.

Suprapubic cystotomy was advised for drainage and to stop the bleeding, and was accepted by the patient.

Under ether the bladder was washed out through the prostatic catheter with hot boric acid solution and left empty. After the bladder was exposed through the suprapubic opening, it was distended with air by means of the F. T. Brown vesical air pump, which brought it well into the wound. On opening the bladder the tumor mass was found to consist of all three prostatic lobes enormously enlarged. The right lateral lobe was the largest, pushing the prostatic urethra well over to the left side. Both the lateral lobes were so tightly wedged that considerable force was required to separate their opposed surfaces, done in order to get a view of the internal vesical orifice which could then be seen at

a depth of 2 inches deflected to the left. The two lobes together were the size of the closed fist.

It was then found that the tip of the prostatic catheter had pierced the right lobe (Fig. 1) and could be seen issuing from its summit in the median line, the catheter having evidently left the urethra where the canal was deflected to the left and then tunnelled its way through the prostatic tissue. The median lobe was also found to be enlarged and overlaid by the two lateral lobes. Thus the increased growth of the prostate had been into the bladder cavity, forcing that organ upwards. The bladder walls were thickened and congested, but the bleeding had evidently come from the laceration of the prostate.

The lobes were readily shelled out after a transverse incision had been made through the mucous membrane covering the lateral tumors, the median lobe being shelled out through the cavity that had been occupied by the right lobe.

Drainage tubes were then introduced to the bottom of these pockets (Fig. 2) and carried out of the external abdominal wound, and the wound left wide open and loosely packed with sterile gauze.

Marked relief after operation, gauze removed in 36 hours, and then every four hours, day and night, a hot boric acid solution was run through the drainage tubes, to wash out the collected clots. The urethra was irrigated once daily from the meatus. Two large flat sponges were used alternately every 20 minutes, one being laid over the wound to absorb the urine, while the other was kept in a 1-100 carbolic solution. The skin about the wound was kept smeared with ordinary vaseline.

Eighteen days after the operation the suprapubic wound had contracted down to about 30 F. and was completely closed in about 6 months.

One year after the operation the patient empties the bladder except for 60-70 minims of residual urine, which is clear, but contains a few pus cells. He has complete control over the bladder, which has a comfortable capacity of 15 ounces. He does not get up at night and urinates 3 or 4 times in the 24 hours. He has gained 10 pounds in weight and general health is better than for many years. There is no tendency to hernial protrusion in the cicatrix.

Animal Parasites Affecting the Genito-Urinary System.—E. FULLER, M.D. (*The Post-Grad.*, 1900, p. 139.) A chapter from Dr. Fuller's forthcoming work "Diseases of the Genito-Urinary System." Macmillan Co. The animal parasites which may affect the genito-urinary system are the *filaria sanguinis hominis*, *bilharzia hematobia* and *echinococcus hominis*.

Patients affected by the *filaria sanguinis hominis* have generally received their inoculation while living in hot climates. In recent years it has been found to be indigenous in portions of the United States. In 1886 Dr. John Guiteras was the first to discover this fact, having found the parasite in a woman who was a native of Charleston, S. C. Since then other cases have been found in that locality and also, though to a less extent, in the Gulf States.

The mature parasites are long and thread-like worms and seem to have a fixed abode in the lymphatics, lying in the channels of the larger distal vessels. The female is rather larger than the male and is from $3\frac{1}{2}$ to 4 inches in length and 1-90 of an inch thick. The embryo *filarie* are about 1-100 of an inch in length, and easily seen with a low power lens. They consist of a blunt head and fine tapering tail enveloped in a membranous sheath. These latter circulate freely in the fluids of the body reaching the blood vessels through the lymphatics, and during their periods of activity are easily found in a drop of blood taken from

the patient. Manson has found that the mosquito is the agent which spreads the infection, obtaining the larvæ from the blood of those affected and depositing them in any body of water where they undergo further development and are ripe for infecting those who happen to drink the water containing them.

The principal symptoms are due to disturbance of the lymphatic system. Elephantiasis, chyluria, hematuria, anemia, hydrocele with milky fluid, varicocele, elastic tumors in groin and axillæ, lymph vesicles which may burst into scrotum, or abdomen, certain skin lesions, abscess in scrotum, cervical glands and lymphatics of arm or thigh, intra-pelvic and cerebral abscess, venous varix, deafness and eye-disease. Chyluria is the most constant symptom. The urine has the appearance of milk or cream, and may have every degree of admixture with blood. In a case studied by the author, the chylous aspect of the urine was present during hours of repose on the part of the patient and absent during activity, at which latter time the urine was practically normal. When chyle was present there was no difficulty in proving the presence of the embryos. There were no urinary disturbances in this case, he was pale and anemic and had a sense of heaviness in the lumbar region. The hematuria associated with these cases is probably of renal origin, due to traumatism caused by the embryos while being eliminated.

The localized lesions of this disease are mainly due to the plugging of the smaller lymphatic vessels by the mature worm or due to stricture of these vessels which mark places which have been occupied by the worm.

In the matter of treatment there is little to be said, it is on a very unsatisfactory basis. The disease is a very chronic one, the true life history has not been determined. Dr. Fuller's case claimed that his trouble had existed 10 years. Patients seem capable of spontaneous recovery after considerable time has elapsed, provided no fresh infection has occurred. Austin Flint found methylen blue of use in one case. Prophylaxis is naturally of great importance. Boiled and filtered water only should be drunk in regions where this disease is endemic.

The bilharzia hematobia was discovered by Dr. Bilharz, of Cairo, in 1851, in the portal vein of a human subject. The diseases caused by this parasite are more frequently found in Egypt, but its area seems to have extended in Africa even to the extreme southern extremity. Numerous subjects have been transported to England, and recently a case was observed in an English subject who had never been abroad. The mature male worm is about $\frac{1}{2}$ inch long and flat; the female rather longer and narrower. These parasites develop in the portal vein and its tributaries, and it is there that the female is impregnated and from here migrates to the rectum or bladder and ureters, where buried in the sub-mucosa the eggs are laid. The eggs are minute oval bodies encased in a hard shell, one end being armed with a sharp spine. As the egg matures the embryo is thrown out as a ciliated swimming body, passing through the mucosa into the bladder where it is voided with the urine. It is in connection with the burrowing and hatching out of the eggs that hematuria is almost always present. Renal obstruction, vesical infection and suppuration, urinary extravasations and fistule are conditions arising in these patients calling for surgical measures. The diagnosis is confirmed by the presence of the ova or embryos in the urine. Preventing the ingestion of the parasites by use of boiled and filtered water in the countries where it is endemic is important. Medical treatment is useless.

The echinococcus hominis gives rise to the hydatid cysts which may involve the kidney and encroach on the bladder. They may give rise to tumors in these localities and the diagnosis is more frequently made when an attempt has been

made for their removal. The clinical symptoms being such as would be caused by tumor growth in these localities and are mainly due to mechanical causes, and may be followed by septic conditions. Complete removal where possible, drainage of the cyst when complete removal cannot be performed. An exploratory incision made under general surgical rules is both safer and surer as a means of diagnosis than tapping.

A Case of Rupture of the Ureter or of the Renal Pelvis.—E. PERCY PATON, M.D., M.S. (*Brit. Med. Jour.*, 1900, p. 71.) The patient, 35 years old, was admitted to the hospital 10 hours after the accident. He had fallen and struck the left side of his abdomen on a tin box. He walked home and went to bed, but the pain was so great that he got up and walked to the hospital. He was faint, T. 100.2 on admission, considerable pain in the abdomen, especially on the left side. Fracture of the left 12th rib was noted, the abdomen was not distended, there was general tenderness and there seemed to be dulness in both flanks. The urine passed naturally, contained a little blood, otherwise was normal. He was put to bed and given morphine subcutaneously. The following day his condition was much the same, there was some retching, he had vomited twice. The urine contained no blood. The third day abdomen was more distended. The dulness in the flank seemed to alter its position according to the position of the patient, but very slowly. In the next 24 hours amount of urine secreted was 33½ oz., a trace of albumin present but no blood. In the next 10 days there was gradual improvement. Amount of urine was about 40 oz. Then he again complained of pain, a distinct tumor could be felt on the left side, elastic in feel and dull in percussion, extending down to the ilea fossa. This had increased the following day, so had the pain which radiated along the course of the ureter. An oblique incision was made in the loin, rather lower than the usual kidney incision, over the tumor, and a large cavity discovered holding a couple of pints of almost clear urinous fluid, the cavity extended from the kidney to the pelvic brim, no opening into either the ureter, pelvis or kidney could be found. The ureter was not seen. A drainage tube was inserted and the wound closed partially. Gradually the urine *per urethram* increased and that coming from the wound became less and only a sinus was left. Gradually the wound healed and the urine became absolutely normal, having previously contained a little pus and albumin.

Acute Orchitis in an Infant Eleven Weeks Old.—F. A. WARNER, F.R.C.S.E. (*Brit. Med. Jour.*, 1900, p. 73.) The child was born of healthy parents, bottle-fed, however, and subject to digestive disturbances. Had been circumcised, wound almost healed, after a restless night with vomiting and crying the right side of scrotum was found to be swollen, hot and tender to pressure. The circumcision wound was healthy. Inguinal glands not palpable. The testicle was swollen hard and tender and a boggy swelling extending to the external ring surrounded the cord. The left side was normal. A few hours later a hydrocele developed on the left side. In four weeks there was complete subsidence, the two sides being normal. The cause of the disturbance could not be determined.

Therapeutic Reports

This department has been opened for a free discussion of the merits of preparations offered for the use of the profession.

GRAVEL.

BY J. ALEXANDER WADE, M.D., DANBURY, CONN.

Certain solid substances which are usually carried off with the urine are sometimes precipitated, crystallized in the tubules of the kidney or any of the other portions of the urinary passages and voided in crystals which are always visible under the field of the microscope and oftentimes to the eye alone.

This condition is called gravel, and is one of the most distressing complaints that the physician has to deal with. The cause of these crystals being thrown down is, that there is too much concentration of the urine, it becomes too heavy in the organic constituents and as most frequently met with in general practice, is composed of uric acid and is the red sand which quickly forms around the sides of the vessel in which it is voided. Those suffering from a gouty diathesis, especially when aided by a sedentary life and high living, are more likely to have this disease, though I have met with it in every condition of life.

According to Keyes the symptoms are as follows:

"This pain (of the back) is deep seated and is felt over the kidneys, usually unilateral, often extending around the side following the course of the ureters, sometimes continuing on and into the testicle, oftentimes complicated by bladder symptoms, of stone in the bladder or of chronic cystitis of the neck. The pain varies in intensity and is usually made worse by fatigue. Oftentimes the patient cannot lie upon the affected side in bed. The pain is usually a dull, deep ache, occasionally sharp, darting, pricking in character. It may come on gradually or suddenly and remain according to its causes, from a short time up to many years, perhaps until death."

In looking up the authors of the va-

rious text-books on this quite common disease, I was amazed to find that the treatment recommended is of the most meager description and consists chiefly in the use of some of the various mineral waters, which do not contain enough of lithia (the only good in them) to produce any therapeutical results whatever, the use of a restricted diet and some alkalies.

A quite extended experience tells me that gravel is a much more common disease than is usually thought, that the diagnosis is oftentimes not properly made out and the patient suffers on, because of the fault of the doctor. We should be much more careful in the examination of all the backaches that come to us, especially in the male, and see if the urine is loaded with the uric acid crystals. It is an easy matter to distinguish this trouble, provided a little time and pains are taken with the examination.

Until recently the treatment was not at all satisfactory. There can be no question but that lithia is the best treatment, but how can we get a lithia which will pass into the system and do the work that was intended for it, (the formation of a chemical change with the uric acid, making a soluble salt so that it can be excreted) instead of doing as usually is the case, go in the mouth and out of the anus just as it was taken in. I am free to claim that lithia as commonly taken into the system in tablets and so forth, does not enter into the system only in the very slightest proportion and then not enough to do good. Lithia must be *dissolved* in the stomach, must be *taken up* into the blood, must be *united with the uric acid* there present and in excess, form a soluble salt which is washed out of the system, *to be of any good*. This the waters and tablets will not do. The testimony of almost the entire profession is in accord with these facts.

Until lately I have been at sea about the treatment of these cases of gravel. Some I have cured, but it always seemed by the grace of God rather than by my treatment. Now the whole scene is changed. Since the new salt of lithia called thialion, has been discovered, which is absorbed, which *does* go into the system and forms the soluble salt, my troubles are over as to the treatment of gravel. *Every* case has yielded. The relief had come quickly, at once, almost, and I was able to prove that it was the thialion that was doing the business, by chemical and microscopical examination of the urine, showing the lithia present inside of *four hours after administration*.

Let me cite just one case out of the many. Mr. G., aged 53, a well-to-do farmer, weighing 160 pounds, sent for me to come and see him on the 6th of December, 1897, and I found him with the following history and symptoms. His father and mother, who lived to a good old age, had suffered from rheumatism greatly, while the father, who was never a fat man or a big liver, suffered for years from the gravel and the subsequent kidney colic attacks. My patient had had the attacks like the one which he was now suffering from, for the last five years. Had had three different doctors, who had doctored and doctored him in vain. At first he had one every six months, but now they came on once in about three months. His bowels were only in a fair condition, and you will find that most of these cases suffer from constipation in some of its degrees of severity. The only thing that gave him relief from his severe pain was morphine, and he begged me for that. An examination of his chamber showed it incrustated all over the bottom with the reddish brown deposit which indicated an excess of uric acid crystals. His wife said that she simply could not remove it even with sand.

He was in great pain, rolling from side to side in the bed, it being greatest in intensity in the left side over that kidney. The pain streaked down the leg and into the testicle on that side, drawing that organ up tightly into the body. The tongue was coated and his breath foul. The water was scanty and highly colored, with a high specific gravity. I ordered him to take a teaspoonful of thialion dissolved in a teacupful of hot water and repeated every two hours until the bowels moved freely. This took three doses. His pain was lessened after the second dose and became bearable.

After this he took two doses, one morning and night before meals for three days and then one dose on rising in the morning. His bowels became natural, his health improved rapidly, the urine became normal, no more uric acid crystals were excreted and no more attacks of nephritic colic. In fact has not lost a day on account of sickness since the attack above mentioned.—(*Reprinted from the Toledo Medical and Surgical Reporter.*)

THE NEW TREATMENT FOR GONORRHEA.

In discussing the new remedies recommended for urethral irrigation, namely protargol, argonin, largin, and the silver compounds with albumin, Professor W. T. Bellfield (*Progressive Medicine*, Vol. 4, December, 1899) writes as follows: "The first (protargol) alone seems to have secured general favor. Neisser, who introduced it, recommends that this solution be injected three times daily, and that each injection be retained ten to fifteen minutes at first, and thirty minutes, later. He states that the gonococci usually disappear from the discharge in twenty days, after which astringent injections, such as the zinc salts, must be used until the discharge ceases. Other observers have had equally good or better results; thus Baum reports fifty carefully observed cases treated with Protargol; of these, fifteen were uncomplicated cases of first infection, and in these the discharge ceased in thirteen days on the average, though the gonococci were found in some cases until the seventeenth day. He used solutions of 1 to 5 grains to the ounce, six to eight injections daily, retained for five minutes each during the first fourteen days, after which zinc sulphate solutions were employed. Swinburne and others have combined the two methods, using the permanganate irrigation and directing the patient to use protargol injections. My own experience with protargol has been more favorable than with the permanganate irrigation. I have used irrigations with protargol solution (1-1000) once daily, flushing the deep urethra so soon as the first signs of its involvement became apparent, and allowing the patient to use the injection at home. I have combined this with the remedy used by me for twelve years—the yellow muriate of hydrastine, 1-1000, dissolving both the hydrastine and protargol in the same solution.

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Original Communications.

REPORT OF TEN CASES OF VESICAL TUMORS, WITH SOME REMARKS UPON THE CLEANSING OF FOUL BLADDERS AND THE TECHNIC OF SUPRAPUBIC CYS- TOTOMY.¹

BY GRANVILLE MACGOWAN, M.D.,

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THIS report is prepared and presented to add my quota to the great mass of testimony accumulating upon the exact value of cystoscopic diagnosis in the discovery and treatment of vesical neoplasms, as well as to place in the common store the results of my experience with such tumors. The genius of Dr. Max Nitze,¹ together with the careful work of Casper,² in Germany, the wonderfully systematic operative research and skillful deductions of Guyon³ and his pupils in France, the mechanical skill of Hurry Fenwick⁴ in England, and Francis Watson⁵ in America, have made to those who would take the pains to learn, the diagnosis, and the removal, or relief of, bladder growths, a comparatively easy matter.

The crude methods of Thompson⁶ in diagnosis and treatment of vesical tumors are, except in rare cases, abandoned. The only surgical author of note who advocates them and says they are sufficient, always in females, and with rare exceptions in males, is Henry Morris.⁷

I have no desire to enter into the pathology of these growths, so well covered by Albarran⁸ and Clado,⁹ whose superior experience and unequaled facilities for observation give descriptions which it would be useless to emulate. But upon the subject of the operation of supra-

¹ A report of these cases was made to the Medical Society of the State of California at its meeting at Monterey, April, 1899.

pubic cystotomy, so intimately connected with the modern surgical treatment of the diseases of the urinary bladder, I have something to say, which I believe may prove useful to some of my fellow-workers, for it is founded upon the experience derived from a very considerable number of cases of *sectio alta*, done for vesical tumors, stone, tuberculosis, excision of ulcers, removal of enlarged prostates, drainage, impassable stricture, and determination of ureteral hemorrhages.

If the object of the operation is simply to get into the bladder, it is, as is commonly taught, an easy one. If done for the best interests of the sick man, to avoid sepsis, peritonitis, urinary infiltration, establish perfect drainage with comfort, and prevent subsequent fistula and hernia, it is frequently a most trying one, requiring skill, practice, much patience and delicacy of touch. Familiarity with its difficulties gives a full appreciation of the ease with which many of them may be avoided.

There is no organ which is so thankful for cleanliness as the urinary bladder. Not even in the peritoneal cavity have we such striking reward for clean surgery. Give to all patients, if time thereto offers, for a number of days, that best of urinary antiseptics, urotropin. And if the bladder is septic, let it be washed once each day with a solution of 1-3000 of lactate of silver in distilled water.

For the operation of *sectio alta*, the same preparations exactly that are in common use where the peritoneal cavity is to be opened, are necessary. In males, the pubes, scrotum and the perineum are to be shaven and likewise prepared, for it may be wise to institute perineal drainage, closing the bladder above. The anesthetic by preference is chloroform, on account of the well-known congestive action of sulphuric ether upon the kidneys, and then chloroform, as first pointed out by Ultzman,¹⁰ secures a more perfect anesthesia of the bladder muscles.

The bladder is to be thoroughly washed through a sterilized catheter. As the result of observations conducted at the operating table, I am convinced that no septic bladder can be cleansed by a fountain syringe or other reservoir introducing an unknown quantity of water under fixed and uncontrollable pressure, unless the individual can rise and shake himself to agitate the water in the bladder and pass it afterwards voluntarily, as recommended by R. Harrison.¹¹

If the object of introduction of water into the bladder is to thoroughly distend its folds so that a therapeutic solution may come in contact with the full extent of its mucous membrane, then hydrostatic pressure, by the Janet method, should be used, for this will accomplish it best. But if the desire of a surgeon is to cleanse the bladder

of septic matter, shreds, clots, pus, deposits of salts of the urine in pockets or in trabeculated bladders, he will certainly not succeed in doing so with a fountain syringe, used as ordinarily directed for washing the bladder. A cystoscopic examination made after such a so-called washing will readily convince any one who will make it of the truth of this statement. I know that the use of the hand syringe by the patient himself is not practical, and if he must do his own bladder washing it is better to provide him with the glass funnel and two-way stopcock attached to a soft rubber catheter so highly praised by Mansell Moullin;¹² or with a rubber bag with a smooth-working stopcock, provided with a taper nozzle attached to a soft rubber catheter, as recommended by Van Buren¹³ and Keys. It is the miserable results so frequently seen from the use of the fountain syringe mode of bladder washing, persistently recommended by surgeons, whose teachings carry weight,¹⁴ and who should know better, that has brought this therapeutic measure, in many quarters, into undeserved doubtful repute. The method taught by Ultzmann¹⁵ and Felix Guyon¹⁶ and in common practice by European Continental surgeons, using a sterilizable hand syringe of either hard rubber, glass or metal, with an easy-working piston, and which should have a definite capacity of from 100 to 150 cubic centimetres, or from 3 to 5 ounces, should be the one employed by the surgeon. The liquid used for the washing should be introduced rapidly in a quantity not to exceed 70 c.cm. and let flow out again immediately, repeating the process until it returns clear and free from the débris. The rapid introduction of a small quantity of liquid as Guyon¹⁷ remarks, "forms eddies," and sets the pus, shreds, clots or other matters in a swirl, exactly on the same principle as the evacuator removes the fragments of stone after litholopaxy. The rapid introduction of the water causes a momentary feeling of smarting and light pain in the urethra, due to the sudden and irregular expansion of the catheter, but this is only temporary and never severe. If the bladder is septic, a solution of silver lactate 1-3000 in distilled water is the best cleansing agent, or a salicylic solution as recommended by White,¹⁸ will prove satisfactory. If it is not septic, or only mildly so, a 4 per cent. solution of pure boric acid, Wyeth's or Merck's, or the boro-salicylic solution, called after the surgeon Thiersch and first recommended for this purpose, I believe, by Bryson, of St. Louis, should be used.

I am particular about specifying the necessity of using pure boric acid, both in my genito-urinary and my dermatological practice, for the cheap boric acids manufactured by St. Louis and Philadelphia chemists are irritating to the skin and the mucous membrane of the bladder. Indeed, there is an additional element of danger in their use, as I have

observed in two cases of external urethrotomy, where showers of yellow sand passed by the patients whose bladders were irrigated daily with boric solution, were found on analysis to consist of the boric acid used, in combination with mucin and pus. Pure salicylic acid from the oil of wintergreen—Lloyd, Merrill, or Merck—should be preferred.

When the bladder is clean, or as clean as it can be made, it is to be filled to distention with the fluid used for the washing; the quantity will vary with the normal capacity of the bladder and the completeness of the anesthesia. Filled from a syringe, such as I have described, there will be no danger of rupture, for the least contraction of the detrusor is noticed immediately by the thumb on the piston. I rarely find it necessary to tie a rubber tube around the penis, or press the finger over the urethra in the female, in order to confine the liquid in the bladder. The bladder is usually washed before the anesthetic is given, but it is never filled for the operation until the patient is thoroughly chloroformed.

As the operation is always finished in the Trendelenberg position, I rarely make use of the Petersen bag, being rather prejudiced against it on account of the free hemorrhage from the veins of the superior vesical plexus, when they are cut with the bag in position. But it is a useful expedient for operators who are timid, or not perfectly familiar with the steps of the operation. I have in my experience found it necessary only once, which was in an operation for stone, in January, 1900. The bladder lay very low in a very large pelvis in a muscular man, and was bound down to the tissues posteriorly by an old pericystitis.

I have several times used air for the inflation of the bladder, but I cannot recommend it for general use, for I do not know how its pressure upon the bladder walls can be controlled, not even by the ingenious and admirable method of Jepson.²⁰ I have never seen any harm, local or systemic, occur from its use.

The patient ready and supine, a cut at least three inches long is made to the connective tissue over the bladder. If, in doing this, the muscle sheaths, or the muscle fibres, are torn, or there is a ragged condition of the fascia, caused by bad luck or carelessness in getting through, whip them together with catgut, so as to leave the wound surface smooth, to avoid any pockets for purulent infiltration. The patient is now raised in the Trendelenberg position to an angle of about thirty-five degrees, then a small incision is made crosswise in the connective tissue, and its upper part raised gently with the falciform reflection of the extra peritoneal fascia carrying the peritoneum, thus clearing the upper part of the outer bladder wall in the line of the

abdominal cut. The part below is to be gently pushed downward and forward with the finger or the handle of a scalpel, bunching it beneath the pubic bones without disturbing the cellular tissue in the space of Retzius. If by reason of adhesions and, in tubercular or traumatic ulcerations of the bladder dome, pericystitis, or adhesions following appendicitis, they sometimes are very firm, the peritoneal cavity is opened, sew the rent with fine catgut, or if the operator believes he has entered it, or if by rough handling the loose cellular tissue in front of the bladder is disturbed, so that the bladder neck may be seen or felt, the wound should be lightly packed for forty-eight hours and the operation then continued. The exceptions to this rule are, first, where, by the cystoscope, the existence of a large tumor upon the posterior bladder wall has been determined, it has been decided to attack it from the peritoneal side, and second, where such a tumor exists upon the anterior wall, necessitating the removal of a portion of this wall.

After thus disposing of the fatty cellular tissues above the bladder, this organ should be steadied by an assistant grasping it at the lower angle of the wound with a tenaculum or curved vulsellum forceps while the index finger of the left hand of the operator steadies it at the upper angle and protects the peritoneal fold. A long, straight-pointed knife is held perpendicularly to the plane of the long axis of the pelvis with the cutting edge forward, the veins being avoided if possible, and with a slight rocking motion thrust through all of the tissues into the cavity of the bladder. Some of the solution used to fill the bladder immediately escapes through the wound, when, with the knife still in position, a pair of long artery forceps are passed into the bladder alongside of it and opened wide. The edges of the bladder wound, on each side, are then to be caught with smooth-faced artery forceps of the pattern of Colin or Halsted, the knife withdrawn, and the patient lowered for a time, and the remaining fluid withdrawn from the bladder with a catheter, or by aspiration, with a syringe, so that it may not wet the clothing upon the chest and back. This done, he is raised again, an assistant upon each side lifts the edges of the incision in the bladder with the artery forceps, allowing the operator to introduce a pair of blunt-pointed, straight, sharp scissors, with which the wound is enlarged sufficiently to introduce an index finger. Then, before the bladder is explored, a well-curved needle, threaded with heavy silk one metre in length, is passed alongside the finger and as near as possible to the middle of the incision and about a half inch from its edge, successively through the wall of the bladder, the transversalis fascia, the rectus muscle, and the skin on each side, emerging from one-half to one inch away from the edge of the wound, according to the relative

weakness or strength of the abdominal muscles. These sutures are tightly tied at the edge of the skin and the ends given to an assistant on each side, whose business it is to manage them as retractors. The bladder is then secure and only heedless surgeons can break down the light connective tissue structure between the anterior bladder wall and the pubic bones in any ordinary exploratory manipulation. After exploring the bladder with the finger, assisted, if necessary, by a sound in the urethra, or two fingers of an assistant in the rectum or vagina, if the indications are to proceed, the anterior edge of the wound is enlarged to the commencement of the cellular tissue filling the space of Retzius by cutting with the strong, blunt-pointed straight scissors. If the operation is done for stone this will probably be all that is necessary. But if for the removal of growths, enlarged prostate or the excision or curettage of ulcers, then, before proceeding further, the anterior bladder wall is firmly stitched to the transversalis fascia and the tendons of the recti muscles on each side, with No. 1 catgut—I prefer that pre-

FIG. 1.



Mayo's Intestinal Needle. Full size.

pared in Cumol—thus shutting off the space of Retzius. A round curved intestinal needle, invented by Mayo of Rochester, Minn., made by Truax, Green & Co., of Chicago, is the best for the purpose. A sharp-edged needle should never be used, and if such be used and the greatest care not exercised, a surgeon will defeat the very purpose he is striving to attain, for this part of the bladder wall tears readily.

If the incision is not low enough to give room for the introduction of a Watson speculum easily, secure additional space by cutting the bladder with straight scissors toward the peritoneal cavity, between two fingers introduced parallel to the wound, the peritoneal fold being protected meanwhile by a Bazy retractor or a Keys' hooked gorget. The bladder wall is then secured to the abdominal wall by at least two additional temporary sutures on each side. The speculum is introduced closed and gradually and carefully opened, for roughness in this manipulation will break down the dam that has been made anteriorly. The bladder is then dried gently with small cotton or gauze pads held

by Kelly cotton carriers, or wrapped on long match sticks. The inside of the viscus is then examined with reflected electric light. The head-light of Nevius, of Chicago, does very well for this purpose.

The only really difficult manipulation in the bladder is in the removal of growths which require the re-section of a portion of the bladder wall and the subsequent sewing together of the edges of the wound. This arises from the unfortunate fact that no scissors heretofore made, and no needle-holder I know of, are exactly suitable for cutting and sewing perpendicularly through a hole two or three inches long on a surface from three to six inches away from the hand. But by patience and care these objects may be accomplished by the instruments we have. When it becomes necessary to obtain more room than the cut described will furnish, the severing of the extra peritoneal fascia with the posterior sheath of the recti muscles, which are only expansions of the tendons of the lateral abdominal muscles, together with a few of the posterior fibres of the recti muscles, ligating the deep epigastric arteries if necessary, will often relax the abdominal walls enough for our purpose. If this does not suffice, I think the best plan is to sever the rectus muscle on each side, partially or wholly, about the middle of the wound above its tendon. The skin and deep fascia do not need to be cut. The ends of the cut muscles are caught before they can retract with loops of heavy silk. At the end of the operation, before closing the bladder wound, these severed muscles are brought together with buried matráss sutures of No. 3 catgut, and these are further strengthened by two or three sutures of silkworm gut passed through the skin and muscle parallel to the muscular fibres.

I shall not describe an operation for the removal of a growth or ulcer from the interior of the bladder, but my advice to any surgeon attempting such an operation is that he be fully and well supplied with the most approved instruments to avoid trouble. The operation finished, all hemorrhage must be stilled. This may be accomplished by hot water (to 130° F.) irrigations, the application of gauze pads soaked in a watery solution of supra-renal capsules, which I have used for sometime with fair success as a styptic, by the Paquelin cautery applied through a hard rubber caisson, after the method of Fenwick, or, when necessary, by ligature of catgut.

If the case be septic the wound is again irrigated with a solution of 1-3000 of lactate of silver. Any spaces or pockets above the bladder and beneath the muscles of the abdomen are to be closed by buried catgut. The bladder and abdominal wound are then to be closed tightly around the new model de Pezzer suprapubic drainage tube, with a single row of wormgut sutures passing down to, but not through, the

mucous menbrane of the bladder. I want to specially praise these drainage tubes, for since first using them in 1895, under the advice and through the kindness of my friend Dr. Louis Bazet, of San Francisco, who had just brought some from France, I have never had any trouble in securing perfect drainage and keeping my patients dry. These drainage tubes of de Pezzer are made of vulcanized rubber, with a caliber of 23 or 24 French. The walls are thin, but so fashioned as to be very firm. They are about 36 cm. long and are reinforced for a distance of 10 cm. from the expanded bulbar end, on two sides, with a rubber welt, so as to offer greater resistance to the contraction of the detrusor muscle upon its sides, and thus prevent interference with the drainage. The welt is external, and does not lessen the caliber of the tube. About 3 cm. from the extremity the tube expands into a collar 5 mm. broad and with a diameter of 2 cm. and then tapers to a rounded end. The part between the collar and the extremity is furnished with two eyes 8 mm. long and 3 mm. broad. One, near the collar-like expansion, and the other, on the opposite side near the rounded extremity. Both of these eyes are sunken and wonderfully smooth. The whole of this end of the instrument looks very much like an elongated Mexican sombrero. The collar is only the thickness of the single rubber, while the part beyond the collar is also reinforced by welts. This allows for considerable longitudinal elasticity and prevents occlusion of the tube. They may now be obtained of the Kny-Scherer Co., of New York.

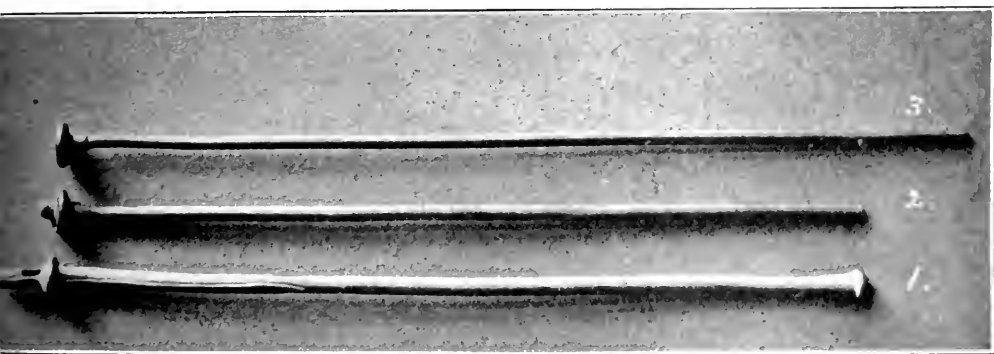
I believed until recently that this was a matter of general knowledge among surgeons, but I find, upon reviewing the literature upon this subject, that the imperfect devices of Dittel, Trendelenberg and Bangs are still in common use, so that I am not surprised to find in a recent article by a distinguished surgeon, John H. Brinton, *Therapeutic Gazette*, November 15, 1899, the following:

"After operation urinary infiltration may be prevented by inserting through the wound a rubber drainage tube of a quarter of an inch caliber. This may be rounded at the vesical end and fenestrated, and may be stitched to the edges of the integumental wound. It should be long enough to empty by its external end into a receiver. If at any time it should become choked, the obstruction may easily be removed by injection of air or water from a rubber bulb or small syringe. The retention of the drainage tube need not be prolonged; it can usually be taken away at the end of two or three days, and the escaping urine received on pads of gauze, which should be changed every four or five hours." This plainly indicates that Dr. Brinton shares the opinion which exists

among many surgeons that there is no satisfactory form of bladder drainage.

After the stitches are in position it is necessary to carefully set the tube by gently passing a stream of fluid into the bladder through a catheter introduced through the urethra. If the stitches are tight it will work perfectly. It will be noticed that no mention is made of any drainage at the anterior angle of the wound. If my directions are followed, none will be necessary, for there is no space of Retzius left to drain. It is filled with loose, fatty cellular tissue, gently placed there before the opening of the bladder and is further blocked by the anterior bladder wall, which is stitched to the transversalis fascia and the sheaths of the recti muscles and further suspended by the wormgut sutures approximating the bladder, muscle and skin wounds. This does not ultimately interfere with the power of the bladder to empty itself after the healing of the wounds. Sometimes, when I know the urethra to be irritable, I place a second tube, which is smaller and of the

FIG. 2.



De Pezzer Tubes.

old de Pezzer model, alongside of the first, so that the daily irrigation of the bladder and continuous drainage may be assured without introducing an instrument into the urethra. The tube, as shown in the illustration, is braced above and below with strips of rubber adhesive plaster, and passes up through the gauze dressing and out through the binder, at an angle that will not obstruct its flow. It is connected with a piece of one-fourth inch hose by a glass connection, which acts perfectly as a tell-tale, to show whether the drainage is progressing properly, and to show whether the drainage tube becomes coated with the urinary salts, which is always a signal for its prompt removal and the substitution of a fresh one. The glass connection is fastened to the

binder with a safety pin, so that no undue traction may be made upon the tube. The rubber hose is fastened to the rubber sheet with safety pins, allowing plenty of slack, so that the patient may move from side to side and change position in bed; it extends underneath the bed into a half gallon bottle, tied to the bed frame and filled partially with a 1-2000 solution of HCl_2 , underneath which the mouth of the tube remains. This glass bottle and the rubber hose are removed every day and sterilized. The quantity of sublimate solution introduced into the bottle is known, and hence it is easy to tell how much urine the patient is passing each twenty-four hours, while the tell-tale informs always of the character of this urine. If the tube does not drain well after having once been started properly, it is due either to obstruction

FIG. 3.



of a clot or shred, or to its floating up to the top of the bladder and passing partially outside of the mucous membrane of this organ, exciting muscular spasm of the detrusor upon it. The remedy for the first is gently stripping the rubber hose to start the siphon, or washing the clot into the bladder with gentle pressure by a hand syringe, or to wash it out by the increased pressure from fluid introduced through a catheter in the urethra. The remedy for the second is a dose of morphia, hypodermically, to relax spasm, and the return of the tube by pushing it back, after which retention by the device of a safety pin introduced into a strip of adhesive plaster wrapped around the tube at the level of the belly wall, and held in place by plaster braces. If obstruction is perfect, remove the tube and boil it in water with sodium bicarbonate to sterilize and cleanse it. It can readily be introduced

again by using a pair of polypus forceps. These are introduced first closed along the track of the wound to the bottom of the bladder, to obtain the bearings, then the end of the tube is folded over from the side, as flat as possible, grasped by the forceps, oiled and slid, or pushed gently, into the bladder and to the bottom, where released, it expands and the forceps are withdrawn. The stitches are removed somewhere between the third and the tenth day. The tube is removed permanently when the wound has closed to such an extent that the desire and ability to urinate by the natural channel is restored, and the urine is clear and free from shreds. There is usually some leakage for a few hours, or, at the most, for one or two days, after the removal of the tubes, but I have seen the track of the tube closed tightly in six hours.

I have used Guyon's double tube several times, but it is a heavy affair, greatly inferior to that of de Pezzer. I have given a fair trial to the devices of Keys, Bangs, Dittel and Trendelenberg for drainage after suprapubic operations, and though any of them are better than strips of gauze or common drainage tubes, for they all drain sometimes, they seem to serve principally to keep the patient wet and miserable, the nurse busy and the supplier of dressings happy. Where they are used, or where entirely open drainage is used, it is necessary, and in all cases it is advisable, to guard against the unpleasant effect of the contact of the urine with the skin, by smearing the abdomen, thighs, genitals, perineum and the back with sterilized yellow vaseline or a borated lanoline cream.

In any form of open drainage, or in case of accidental leakage, the bed and the clothing about the chest and back of the patient may be kept dry by a rubber sheet three yards long, placed beneath the patient, the upper end doubled so that the free edge is directed downward. This is adjusted tightly about the waist next the skin, and the sides fastened together and to the underclothing by safety pins.

I have been thus particular to describe these apparently little things because I have had to work many of them out myself and find the others, one by one, in American, English and Continental literature.

I am used to having perfect success in operations upon the bladder, and I attribute this, not to superior skill, but to the exercise of a little more care than many use. The cause of death after such operations is uremia, from the refusal of the kidneys to secrete freely or at all. This I have seen but once in my own practice, and that was years ago. Just as soon as I have reached the bladder wall I order an assistant, detailed for that purpose, to commence hypodermoclysis of a normal salt solution into the cellular tissues of the chest wall. As much as two or three quarts are introduced sometimes in this manner,

for such operations are often prolonged. It is always absorbed rapidly, and never fails to promote a free action of the kidneys, and also to overcome the effects of the loss of blood incident to the operation. With this assistance one need not be afraid to operate upon any case, no matter how badly the kidneys may be damaged by previous disease.

CASE No. 1.—Dec. 23, 1894. Referred to me by Dr. Lowry, of Azusa, Cal. Multiple papilloma. Some sessile, others pediculated.

History.—German. Laborer. Age 38; of good habits; no hereditary diseases. Since 1881, his urine has at times been bloody, and recently continuously so. Dysuria—pain referred to the glans—and sometimes obstructions from the clots.

Examination.—Urethra, prostate, seminal vesicles and testicles normal. Bladder base not infiltrated, bi-manual examination negative. Capacity 400 c.cm. Sensibility to contact and distention, normal. Urine acid and bloody, with a specific gravity of 1018. Microscopically, shows blood corpuscles and abundant epithelial cells. Frequency once in two hours. He was sent to me for operation for stone, and says that his urine is sometimes alkaline and that he has often passed phosphatic gravel.

Cystoscopic Examination.—Upon the right anterior segment a large papilloma was beautifully seen. A number of small tumors could also be observed on the superior bladder wall. No stone.

March 3, 1895, operation *sectio alta*. The bladder was stitched to the abdominal wall and a Watson speculum introduced through a two and one-half inch incision. The whole of the interior of the bladder could be plainly viewed with the assistance of electrical reflector. Fully three-quarters of its surface was studded with soft papillomas, the interureteral ridge and the trigone being entirely covered with them.

By working through the Watson speculum with scissors and forceps, and with a Paquelin cauterizer and curettes, through a hard rubber cylindrical speculum, all the growths were removed readily, for they were all superficial. Some of the tumors extended into the prostatic urethra, so the bladder neck was thoroughly stretched with uterine dilators and then curetted.

There was a great deal of hemorrhage, but it was controlled without difficulty by irrigation with very hot sterilized water, and by packing the bladder with a continuous strip of sterilized gauze two inches wide, the edges hemmed, so as not to adhere to the wounded surface. The bladder was partially closed with mattress sutures of catgut, which included the muscular tissues only. The abdominal wound was also partially closed with silk sutures.

The packing was removed the second day, and then the Tren-

delenberg and Dittel drainage tubes were tried, but did not work well. He soon commenced to urinate by the natural channel, and further drainage was dispensed with, but the bladder was thoroughly irrigated twice daily with a borosalicylic solution. The urine became clear on the eighth day and he arose and left the hospital on April 5th with the entire wound closed.

By reason of my illness the silk sutures were left in until the 21st of March. They were then covered with a phosphatic deposit and came away with difficulty.

The operation proved of great benefit to the man, for he had been bleeding for many years upon the least exertion, and was very weak and anemic.

For a week previous to the operation his bladder was filled almost continuously with dense clots, which had to be removed several times with a Chismore evacuator.

Early in May he was again cystoscoped, and no growths could be seen anywhere. In the beginning of June he had an attack of renal colic, first in the right kidney, and then in the left; this was followed by the discharge of a large quantity of small calculi and by double epididymitis.

August 30th I cystoscoped him again and found a small calculus, which I crushed with a Chismore lithotrite and removed. It weighed 50 grains, and had for its nucleus a bit of silk suture which had broken in removal and ulcerated into the bladder.

After this, he was entirely comfortable and strong, could work all day, and could hold his urine for seven hours. Soon he went to Oregon to work in a lumber camp. I heard from him in June, 1898. He stated that he had passed blood again from the bladder a few days previously, but I have not since heard anything further from him.

CASE No. 2.—Single pediculated papilloma. F. W. K. Referred to me by Dr. Truworthly, June 26th, 1895.

History.—Merchant, 41 years of age. American, of good habits, with no hereditary tendencies.

In October, 1894, he had his first attack of hematuria, which lasted for three days. Thirty days later there was a second attack. Between this and the beginning of March, 1895, blood was present at all times in his urine. For the last fifteen days the hemorrhage has been continuous, and at intervals he has been passing very large clots of blood. The quantity of urine for the twenty-four hours is normal, reaction acid, specific gravity 1018. He has a capacious bladder, and only requires to urinate three or four times daily.

Just before examination, he passed urine of such bright red color

ORIGINAL COMMUNICATIONS.

that it looked almost like pure arterial blood. This contained no tube casts and no extra quantity of albumen.

Examination.—Penis, testicles and perineum normal. Urethra, stricture 26 F. near meatus. Posterior urethra irritable. Prostate normal. Seminal vesicles engorged. Bladder base seems a little thicker on the left side. No tumor or tenderness of the kidneys.

The night of this examination, and for twenty-four hours afterward, he passed great clots with much pain, and in order to evacuate them was compelled to urinate in the knee-chest position.

On June 16th I examined him with a Nitze irrigating cystoscope. The hemorrhage was so free that it was impossible to get a clear field, but a tumor on the left upper segment could be seen.

July 1st. Sectio alto. The patient had been kept in bed taking boric acid and salol in the meantime. Before operation the tumor was cystoscopically demonstrated to the attendant physicians and the medical class. The tumor, which was 1-1½ inches long and single, with a soft base, was removed with serrated scissors, and its base cauterized through the caisson with a Paquelin cautery. The hemorrhage was considerable, and the bladder was packed with a continuous strip of gauze hemmed at the edges. After removal of the gauze on the second day, the bladder was drained for the succeeding four days with two de Pezzer drainage tubes of the old model, introduced side by side. On the sixth day one of the tubes was removed, and the other on the sixteenth day.

At the time of operation, the patient was completely exsanguinated, reduced in weight from 150 to 100 pounds, and so feeble that he could not get on the operating table alone, and he would never have left it alive without the large quantity of salt solution administered by hypodermoclysis.

Urine cleared on the fifteenth day. The tubes worked perfectly and kept him dry.

July 23rd. Wound entirely healed, and patient left for home on September 1st. He resumed his occupation, stout and rosy.

Up to this time, January, 1900, there has been no return of the hemorrhage, though I have not been able to get him to allow me to make a cystoscopic examination.

CASE No. 3.—Flat epithelioma. September 23, 1895. Andrew K., 72 years old. Prostatic. Catheter life began about six years ago. Very feeble and uremic. For the past year there has been pain in the bladder and increasing frequency, until it is now every two hours, day and night. For three months past there have been profuse vesical hemorrhages, the clots interfering greatly with catheterization.

Bimanual palpation shows rigidity and infiltration of the right inferior bladder segment, extending out along the right ureter. The external genitals and urethra are normal. After thoroughly irrigating the bladder and removing the clots, a cystoscopic examination was made and a sessile ulcerated tumor was seen around the mouth of the right ureter. No stone. I carefully explained to his medical attendant and to himself that a cure was not possible from any operation, but that relief from the pain and hemorrhage would follow suprapubic drainage.

Sept. 25. *Sectio alta.* A flat epithelial ..., involving the entire thickness of the bladder, was found at the spot indicated. Removal was not attempted. Drainage by two de Pezzer tubes. Relief was complete. The old man remained comfortable until his death on October 5th.

CASE No. 4.—Adenomatous polypus. Nov. 3rd, 1895. John O'N., 53 years of age; laborer; Irish.

History.—About five years ago, after severe muscular exertion, he was attacked with hematuria. This lasted a few days and disappeared as suddenly as it came. Shortly afterward he noticed that his stream would be cut off suddenly, and, seeking advice upon the subject, was sounded for stone and examined for stricture, with negative results. His trouble was attributed then to enlargement of the prostate, and he was advised to use a catheter when necessary, or to place himself in abnormal positions for urinating. He soon found he could urinate, usually very comfortably, when upon his hands and knees. The interruption of his stream became more frequent as time went on, until finally he had to entirely depend upon the catheter. Hematuria from time to time.

When he came to me I cystoscoped him, using chloroform anesthesia, and discovered a large polypus, springing from the center of the bladder base between the two ureters. It had a pedicle about three-quarters of an inch long, which allowed it to move freely, and accounted fully for the obstruction. Two days later I operated him, he being a thin, small old man, through the perineum. I could easily feel the tumor, and caught it with a pair of Thompson forceps, twisted it off, and withdrew it through the perineal cut. The hemorrhage was not great. Drainage was provided by a Watson's perineal tube, which was removed at the end of forty-eight hours. Urination by natural route on the sixth day; wound healed in three weeks. From the time of recovery from the effects of the anesthetic he was free from pain and entirely comfortable. He died, however, from chronic interstitial nephritis, a month after his recovery from the operation.

CASE NO. 5.—Pediculated papilloma. Referred to me by Dr. Covington, March 14th, 1896. G. R. C. Single; speculator; American; 60 years of age; healthy.

History.—Four years ago bled freely from the bladder for two weeks. This ceased by rest and administrations of agents unknown. No examination was made to determine the cause.

He helped to lift a mired wagon out of a rut, and was seized soon afterwards with an intense desire to urinate, and passed a large quantity of bloody urine.

Examination.—External genital organs normal. Urethra, perineum, prostate and seminal vesicles normal. Bladder capacity 300 c.cm. Bladder sensibility normal. Urine acid, containing blood and epithelial débris. Bimanual palpation negative.

After excluding the urethra and prostate as sources of the hemorrhage, I suggested cystoscopic examination to determine the exact origin of the bleeding. This was acceded to, and it was found to be a pedicled tumor situated on the left anterior segment of the bladder wall. The growth was single, and being within easy reach, I suggested its removal through the perineum. Operation was refused. He was confined to his bed for ten days and received $\frac{1}{60}$ gr. of Schiefelin's digitaline, two grains of ergotin, and one dram ext. hammamelis every two hours, with plenty of distilled water and a bland diet. The bleeding ceased. Early in June, after severe muscular exertion, there was a recurrence of the hemorrhage, and an operation was requested.

June 18th. Sectio alta. Bladder stitched to abdominal wall. Tumor brought into view by Watson's speculum and Bazy's retractor, base transfixed with double ligament of catgut and the stump seared with the Paquelin cautery through a caisson. The hemorrhage was very slight. The bladder was closed tightly about two de Pezzer tubes with Lembert sutures of catgut, and the belly wall with worm-gut sutures. One tube was removed on the third, the other on the twelfth day.

The patient is still living, and up till January 19th, 1900, had no recurrence.

CASE NO. 6.—Carcinoma. December 22d, 1896. Thomas A., 57 years old; barber; American.

History.—Three years ago he noticed obstruction in the passage of his urine, occasionally complete retention, requiring catheterization. Ever since the first use of the catheter he has had increased frequency, but only lately urinary spasm or tenesmus. He entered the Los Angeles County Hospital December 22nd, with retention, and in great agony. He was catheterized of twenty-three ounces of bloody urine,

without, however, relieving the atrocious pain. For nearly two months he had had continuous and almost intolerable pain in the bladder, rendering sleep impossible and clouding his reason. His physical strength was greatly impaired, his weight decreasing from 155 to 123 pounds in the past month.

Examination.—Penis, testicles and perineum normal. Urethra normal to triangular ligament, but the bulbous exploring bougie passed over a rough surface when entering the bladder, and was deflected upward. Upon bimanual palpation a large cancer of the bladder base was found. From its mobility I concluded the case was operable and told him I should remove it.

December 26th. *Sectio alta.* Careful examination under the electric light convinced me that the enormous tumor could not be entirely removed, so permanent drainage for relief was determined upon. The superior bladder wall was sewed to the abdominal wall anteriorly, to obliterate the space of Retzius, and the bladder wound closed tightly around two de Pezzer drainage tubes of the old model by a row of wormgut sutures passing through the muscular tissue of the bladder, the muscles, and skin of the abdomen. These tubes, intended for permanent drainage, acted nicely, and there was not at any time any leakage around them. They were retained until January 30th, when they were replaced by new ones.

February 25th. The second set of tubes, which had become clogged with calcareous matter, were removed, and a silver Senn suprapubic drainage tube was inserted. This he wore till the time of his death, in December, 1898.

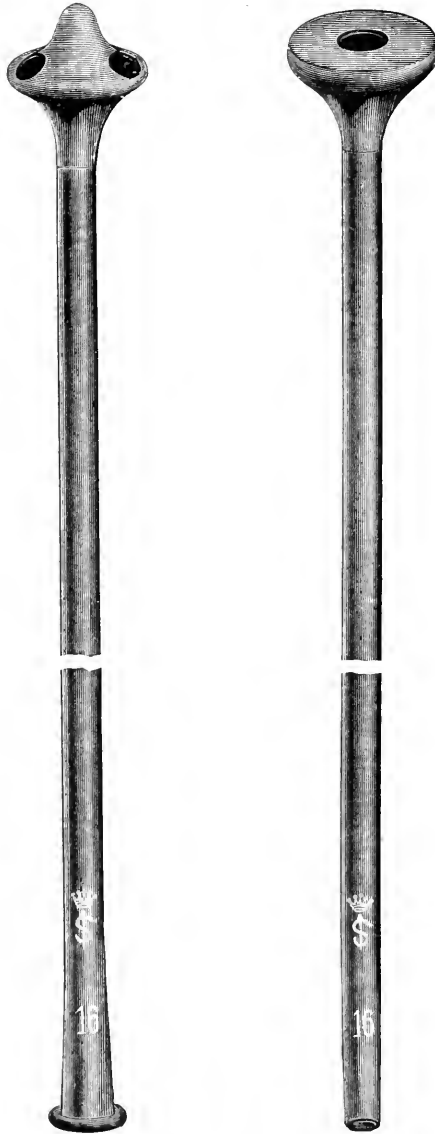
He gained rapidly in weight after the operation, and the pain disappeared, never to return, though the cancerous mass gradually invaded the whole bladder wall and the adjoining abdominal tissues. He slept and lived comfortably, and worked, with this tube. The only inconvenience he had arose from his having to sleep with high pillows to keep the curved portion of the tube from pressing into the abdominal wall. The tube was removed every month to clean it, and then, for a few hours after replacing it, there would be some leakage.

CASE No. 7.—*Epithelioma.* Referred to me by Dr. Powers, August 20th, 1897. Mrs. D. F. G., 26 years old; American; married; has two children; is of good habits; has no hereditary tendencies.

History.—For the past two months she has had continuous hematuria, which has been painless, and with no increase of frequency. She has been rapidly losing weight and is very weak and anemic. No pus in the urine. Bladder capacity 400 c.cm. Urine acid, and filled

with irregular clots. Sp. gr. 1018. Bladder not sensitive to palpation or distention.

FIG. 4.



August 21st. Cystoscopic examination showed a tumor apparently pediculated on the lower part of the right middle segment of

the bladder. This could be seen to bleed freely and appeared to be at least half an inch in diameter. No infiltration of the bladder wall surrounding it could be detected either by electric light or by bimanual palpation.

August 28th. *Sectio alta.* The bladder wall was stitched to the abdominal wall, and Watson's speculum introduced through the cut. Previously I had introduced my finger and searched all over the bladder wall without being able to detect a tumor. This was disagreeable, for I had announced to those who were assisting me, Drs. Lasher, Powers and Williams and others, the position of the tumor. The search light was turned into the bladder, the viscus cleared of clots, and a careful examination made of its walls, when a small, hard, warty tumor, roundish, slightly irregular and flat, could be seen above the mouth of the right ureter, and about three-fourths of an inch distant from it. I saw that this spot bled, and determined accurately that there was no hemorrhage from either ureter, and no hemorrhage from any other portion of the bladder wall. The bleeding was not rapid, but continuous. With an assistant's fingers in the vagina, the spot was raised, and with the knife I cut wide of it, resecting all the tissues well down into the muscular structure of the bladder, taking away all around it, about one-half inch of what appeared to be healthy bladder wall. This wound was closed with interrupted catgut sutures. The bladder wound was closed tightly with Lembert sutures of catgut, the muscles and skin with wormgut sutures. The bladder was drained with a self-retaining de Pezzer catheter for forty-eight hours. The patient was then catheterized at regular intervals for three days more. The wound was perfectly dry for fifteen days, when the catgut, which was prepared in formalin, found its way out through the abdominal wound, and allowed leakage for forty-eight hours.

The patient left the hospital at the end of the third week. In two months her strength was restored, but she retains, though stout and strong, the anemic appearance to this day.

There has been no recurrence up to the time of making this report, January, 1900. She is in perfect health, and bore a child in November, 1899.

I lost this small tumor, but believe it to have been a superficial epithelioma, and undoubtedly it appeared much larger than it really was when I examined the bladder with the cystoscope, for the reason that a mass of fibrin from a whipped-out clot was adhering to it.

CASE NO. 8.—Unknown; probably dilated lymph channel. Referred to me by Dr. Lasher. November 27th, 1897. George M. W., surveyor, 38 years of age; married.

History.—Epileptic attacks, commencing at 21 years of age, following an injury to the head at nineteen. Has a hesitancy of speech, which came on gradually, and increased as the years have gone by. For several years he has noticed a similar hesitancy or stammering of the bladder when he desired to empty it. This was attributed by physicians looking after him to the presence of hemorrhoids, to his enlarged foreskin, or to his small meatus, for all of which he has been operated upon at various times. About five years ago he was attacked by pain in the sacrum, then the flow of urine would at times be cut off suddenly and entirely, recently necessitating catheterization. His physician at this time, Dr. Roblee, suspected stone, but found none upon sounding. He was then sent to Dr. Lasher with a diagnosis of tumor of the bladder, for a tumor was thought to have been felt in passing the sound.

Examination.—External genital organs normal. Bimanual palpation negative. Urine acid, sp. gr. 1018. Bladder capacity and sensibility normal.

November 27th, under general anesthesia, I cystoscoped him and found a tumor about as large as a common marble on the right side of the neck of the bladder, about the junction of the lower and upper anterior segments. This tumor had a narrow pedicle, and looked through the cystoscope like a ball valve one sees in the tank of a modern water-closet. The rest of the bladder was entirely healthy.

November 29th. Sectio alta. The patient, being a muscular man, and not taking the chloroform very well, entering the bladder was troublesome. Great was my surprise, upon introducing my finger, not to feel anything at all like a tumor. Indeed, near the place where it had been seen through the cystoscope was a depression in the bladder wall, covered with a loose membrane, which felt like a collapsed balloon. When Watson's speculum was placed and the electric light turned into the bladder, it was seen that this condition was actually the one present. The collapsed body was caught up with long tissue forceps, and resected with curved scissors. Bleeding was not very great, and easily stopped with the Paquelin. The base was thoroughly cauterized. The bladder and urethra were irrigated with Thiersch solution. One quart of normal salt solution was given beneath the cellular tissues of the breasts, and the bladder closed tightly around a de Pezzer tube with a single row of wormgut sutures including the muscular layer of the bladder, the abdominal muscles and the skin.

On December 5th he commenced to urinate the natural way. The tube was not removed until December 21st on account of the great tenesmus caused by the wound in the vesical sphincter. For three

days after the removal there was some leakage, though there had been none before. The wound was completely healed on December 30th. No rise of temperature and no appreciable hemorrhage followed the operation.

Up to January 1st, 1900, there has been no return of the epileptic fits. Urination in the meantime has been perfectly normal.

CASE No. 9.—Carcinoma. Referred to me by Dr. Cannon, May 3rd, 1898. H. B., miner, 55 years old.

Five months ago, one moonlight night, at his mining camp, he urinated upon the snow, and noticed that he had passed blood. The hemorrhage continuing, the next day he came to the city for treatment. He has since been treated by various surgeons for stricture, cystitis, and stone. From time to time he has passed bloody urine. He has had much pain in the bladder, referred to a spot directly above the pubes, severe pains on the right side, underneath the liver, and in the back, beneath the right shoulder blade. These pains are paroxysmal, requiring opiates. He is nervous and broken.

Physical Examination.—Penis and testicles normal; perineum, prostate, vesicles and urethra normal. Urine acid, sp. gr. 1018. Supernatant fluid, after centrifuging, containing 1-1½ per cent. albumen. Microscopically abundant small epithelial cells, many being polynuclear, fresh blood-corpuscles and crystals of oxalate of lime. No pus or casts.

May 5th. Cystoscoped with a Caspar cystoscope, under general anesthesia, for I suspected he had cancer of the left kidney, as he had been complaining of pain in this organ and it felt enlarged. The hemorrhage had been considerable the day before, and I had some difficulty in freeing the bladder of clots. The right half of the bladder was entirely healthy, clear urine could be seen issuing from the right ureter. The left side of the bladder, healthy on the base, but the light seemed to be absorbed on the roof, and no good view could be obtained. When touched by the cystoscope it felt infiltrated. From what seemed to be the mouth of the left ureter, I could see a jet of blood-stained urine rise in the bladder. The ureter was surrounded with a papular growth, which was best seen as the cystoscope was withdrawn.

The tumor in the bladder was believed to be operable and an operation was proposed and consented to, the date being fixed for forty-eight hours afterwards, but the patient died suddenly twelve hours before the time set. The autopsy showed a large cancer, covered with papular appendages, involving the bladder on the left side posterior

to the trigone. This tumor could have been removed. The mass by its weight overhung the mouth of the ureter, and it was found that the hemorrhage came from a ruptured papilla, against which the stream of urine issuing from the ureter was propelled by each contraction of the ureter. This, together with the crimson pennant, gave the semblance of bloody urine issuing directly from the ureter. The cancer did not invade the inner wall of the ureter. The kidney was cystitic, the liver was greatly enlarged, and its normal substance was almost entirely replaced with cancerous tissue. The pancreas had also undergone cancerous degeneration.

Had I operated him he would have died in the course of a few days from the affection of the liver and pancreas, but without the post-mortem examination I should have been greatly puzzled to know why he died.

CASE NO. 10.—Carcinoma. January 1, 1899. J. A. C., printer, age 58.

This man was admitted to my ward in the County Hospital, complaining of urinary incontinence, dating back about three years. Until six weeks ago, he believed, aside from the incontinence, that he was in perfect health. Since then he has been ill with what his physician called gastric catarrh. He looks anemic and ataxic.

Examination.—Pain, temperature and tactile sensations normal. His grip is a little weak. Ankle, knee and scrotal reflexes normal. Pupils accommodate to light. Thoracic and abdominal viscera normal, except the bladder, which may be felt as a hard, oval body, extending almost to the navel.

Local Examination.—External genital organs normal. Prostate enlarged, very distinctly nodular and indurated. The hardness extends out on the left side along the ureter. On the right side the same condition exists. Left ureter enlarged. No distinct enlargement of the iliac or inguinal glands could be felt. The bladder was so distended with urine that it could be easily mapped out by sight in the abdomen. I introduced a No. 16 Vergne silk catheter and drew off twenty-two ounces of alkaline urine. When the urine ceased to flow a tumor in the belly could be readily felt through the bladder wall. After trying several stone searchers, I finally was able to pass a Thompson into the bladder; it could not be turned, but a rough condition of the bladder wall about the urethra could be noticed. No stone was found.

Diagnosis.—Enlarged prostate and vesical tumor, probably cancerous.

On January 2nd. *Sectio alta.* The bladder was readily entered. Its walls were found to be three-fourths of an inch thick. There was but little bleeding, and the light turned into the bladder showed a papular growth surrounding the urethra most marked on the left side. It was found impossible to remove the entire growth, or even to determine its extent, so the anterior surface of the bladder was stitched fast to the attachment of the recti muscles, the bladder wound and the abdominal wound being closed tightly about a Senn's suprapubic drainage tube. The bladder drained perfectly through the tube, and he was not wet at any time. He was also free from pain after the operation. Ten days later, after the wound had healed, he died suddenly.

The autopsy showed a cancerous mass involving the neck of the bladder and prostate, a greatly enlarged nodular prostate, together with a condition of pericystitis, which had resulted in the immense thickening of the wall of the entire bladder. Both kidneys had undergone cystitic degeneration and both were infected. The entire sigmoid flexure of the colon was also cancerous, though the tissues intervening between the bladder and the colon did not seem to be so.

REVIEW.

The chief interest in the report centres in cases Nos. 7 and 8. How a diagnosis could have been arrived at without the use of the electric cystoscope I fail to see. The results obtained by operation were perfect.

Case No. 7 illustrates forcibly that the malignancy of a vesical tumor bears no proportion to its size. This woman had bled nearly to death from an insignificant little wart, which, while it could be plainly seen through the cystoscope, yet was so flat and small that it could not be detected by the finger in exploring the bladder before illuminating the cavity.

I believe that the tumor in No. 8 must have been a pouch-like dilatation of a lymph channel. It did not look like a hemorrhoidal vein when viewed by the cystoscope. It did not contain a clot of blood, and it did not bleed freely when excised. It was not a cyst, in the ordinary acceptance of the term, for it was in a collapsed state when the bladder was opened, and then seemed within the tissues of the bladder neck. Its dilation evidently bore some relation to the pressure exerted by the filling bladder upon the lymph spaces about the neck of the bladder. The strangest thing of all connected with this tumor is the com-

plete cessation of all epileptic symptoms and of all pain in the sacrum, and this endures until this date, January, 1900.

Case No. 6 illustrates in a striking manner what comfort and prolongation of life permanent drainage may accomplish. From my experience in this case, and in Case No. 10, with the Senn suprapubic drainage tube, I can speak in the highest praise of its efficiency and comfort. The end of the tube was fitted in both cases with a piece of $\frac{1}{4}$ -inch rubber hose closed with a clip. Through this, these men urinated voluntarily at regular intervals.

Case No. 9 is interesting, first on account of the deceptive appearance of the source of the hemorrhage, which, originating from a portion of the tumor directly overlying the left urethral mouth, was influenced by the rhythmical contractions of the ureter, giving it the semblance of coming directly from the kidney, and, secondly, that it is well to remember in operations for the removal of carcinoma of the bladder that metastasis may already have taken place. From the experience gained in this case, and one of primary carcinoma of the prostate in the practice of Dr. Lasher, I should refuse to do a radical operation in carcinoma of the prostate, or of the bladder, if it were accompanied by persistent peroxysmal pains beneath the sternum or the right shoulder blade, for I should feel confident that the disease was also present in the liver or pancreas.

For a clearer comprehension of this report, I have prepared the accompanying table. Each diagram, following the model of Albaran,²⁰ represents a bladder and the posterior urethra, with its superior third sliced almost off, and turned back to the left, so that, in looking down, one sees all of the interior of the organ. The urethral mouths appear in all of the figures. The prostate and verum montanum in all but figure 7, which represents the bladder of a woman. The shaded portions of the figures represent the position and relative size of the tumors.

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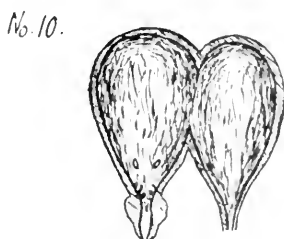
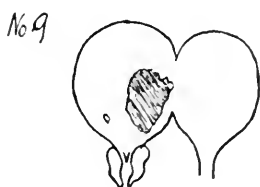
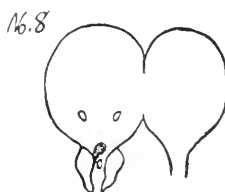
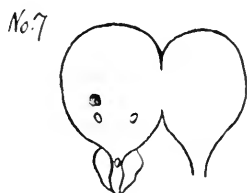
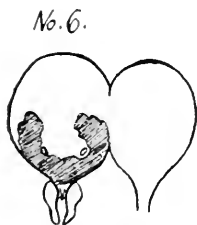
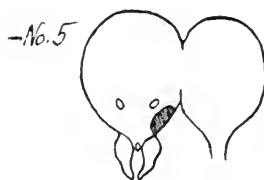
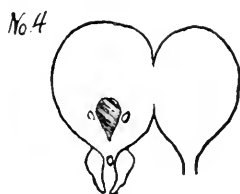
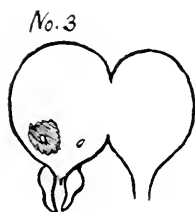
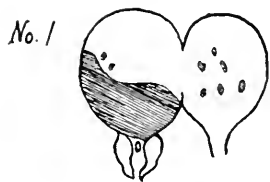
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Figures refer to cases in opposite table.

PERSONAL OBSERVATIONS

Date	No.	Age	Sex	First Symptoms	Cysto- scopic Exam.	Chief Symptoms at time of operat- ing	Operation— Result	Drainage	Time of Healing	Histological Nature	Recurrence.—Observations
1894 Dec. 23	1	38	M.	Hematuria in 1881	Yes	Hematuria Dysuria	March 3, 1895 Sectio Alta Removed by Scissors, Cu- rette and Cautery <i>Cure</i>	Open Dittel Tren- delenberg	33 days	Multiple Papilloma	Yes. 3½ Years. Stone from silk sutures ulcerat- ing into bladder detected six months after operation and re- moved by Litholapaxy.
1895 June 26	2	41	M.	Hematuria in Oct., 1894	Yes	Hematuria Anemia	July 1, 1895 Sectio Alta <i>Cure</i>	de Pezzer	16 days	Papilloma	No. Still living and in good health.
1895 Sept. 23	3	72	M.	Pain 1893 and Urinary Frequency Hematuria 3 months	Yes	Pain and Urinary Frequency	Sept. 25, 1895 Sectio Alta <i>Relief</i>	de Pezzer	wound healed in eight days	Epithelioma	Died from exhaustion incident to his disease in 10 days.
1895 Nov. 3	4	53	M.	Hematuria 1890	Yes	Ischuria	Nov. 5, 1895 Median Peri- neal, Removed by Thompson Forceps <i>Cure</i>	Watson's Perineal	21 days	Adenomatous Polypus	No. Death in seven weeks, from chronic interstitial ne- phritis.

1896 March 14	5	60	M.	Hematuria in 1892	Yes	Hematuria	June 18, 1896 Sectio Alta Removed by Catgut Liga- ture, Scissors, Cautery— <i>Cure</i>	de Pezzer	12 days	Papilloma	No. Still living in good health.
1896 Dec. 22	6	57	M.	Urinary Ob- struction and Retention 1893	No	Pain-Ischuria	Sectio Alta Relief and Comfort for two years	Senn Suprapu- bic	Confined to Bed for 10 days	Carcinoma	Died two years after from ex- tension of cancer to surround- ing organs.
1897 Aug. 20	7	26	F.	Hematuria two months	Yes	Hematuria Anemia	Sectio Alta Resection of tumor and bladder wall <i>Cure</i>	de Pezzer	21 days	Flat Epithelioma	No. Alive and well Jan., 1900. Bore another child. Formalin gut used to close bladder. Leakage at end of 15 days. Continued 3 days.
1897 Nov. 27	8	38	M.	Stammering of Bladder 1893 or 1894	Yes	Ischuria	Sectio Alta Resecting of tumor and bladder wall <i>Cure</i>	de Pezzer	25 days	Unknown, probably di- lated Lymph- Channel	No. Alive and well, Jan., 1900. No epileptic fits since operation.
1898 May 3	9	55	M.	Hematuria 5 months	Yes	Pain	None	.....	.....	Carcinoma	Metastatic cancer of liver and pancreas.
1899 Jan. 1	10	58	M.	Six Weeks	Yes	Ischuria	Sectio Alta <i>Relief</i>	Senn.	7 days	Carcinoma	Died suddenly 10 days after- wards, after wound was firmly healed and stitches removed.

⁷ Henry Morris, "Diseases and Injuries of the Genital and Urinary Organs," p. 442, New York, 1896.

⁸ Albarran, "Les Tumeurs de la Vessie," Paris, 1891.

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TUBERCULOSIS OF THE SKIN IN A PHYSICIAN FROM ACCIDENTAL INOCULATION.*

BY JAY F. SCHAMBERG, A.B., M.D.,

Professor of Diseases of the Skin at the Philadelphia Polyclinic and College for
Graduates in Medicine; Fellow of the College of Physicians.

SEVERAL months ago I was consulted by a laryngologist of this city who had had for some time a small tumor upon the thumb of his left hand. The history of this growth in the language of the patient himself, is as follows: "Last March, while instructing an attendant to give rotary motion massage over the extremities the thumb-nail of the right hand struck the knuckle of the left thumb and cut out a piece of the skin about one-eighth inch in diameter cutting into the true skin. This did not heal over for about

FIG. 1.



six or eight weeks. A scab would form over it, but on account of a slight collection of pus under the scab, it would break open continually. After healing around the edges of the scab, the tissue became reddened, hypertrophied, and hypersensitive, extending over the knuckle until it was five-eighths inches in width, and one-half inch in length."

The tumor, when first seen by me, was ovoidal in shape, of a violaceous or bluish-red color, rather soft to the touch, and elevated perhaps

* Read in Substance before the Pathological Society of Phila., March 21, 1900.

one-fourth inch above the level of the skin. Several small pin-head-sized depressions were visible upon the summit of the growth. With this exception it was smooth. There was no tendency to warty outgrowth, neither was there any apparent thickening of the horny layer of the skin. The tumor was somewhat compressible and would vary from time to time in size. After the application of a mercurial plaster it appeared to decrease in size and elevation, but a few days afterward there was a return to the original dimensions. These changes

FIG. 2.



Hyperplasia of rete projections. Zeiss, 16mm. apochromatic.

were evidently due to variations in the turgescence of the tumor. Pressure upon the growth elicited some pain.

The doctor was asked whether he had had at the time of injury any cases of throat tuberculosis under treatment. He replied in the negative, but on reference to his case-book he found that he was in error, and had really had under his care at that time two cases of tuberculosis of the larynx. It is more than probable that inoculation occurred from one of these cases, presumably during the making of an application to the throat. The growth had now lasted seven months, and was slowly increasing in size. A diagnosis of tuberculosis of

the skin was made and excision of the growth advised. A few days later the tumor, with a one-sixteenth-inch border of healthy skin, was dissected away under local anesthesia. The wound healed up nicely, although the tearing through of the stitches, due to tension upon them, prevented primary union. Five months have now elapsed and there has been no recurrence.

Microscopic Appearances.—The tumor was cut in half and subjected to histologic study. Under low power there is visible an enormous hyperplasia of the mucous layer of the epidermis, the rete projections extending far down into the corium. (Fig. 2.) The stratum granulosum and the stratum corneum are moderately hypertrophied. The papillæ are markedly enlarged and the papillary layer

FIG. 3.



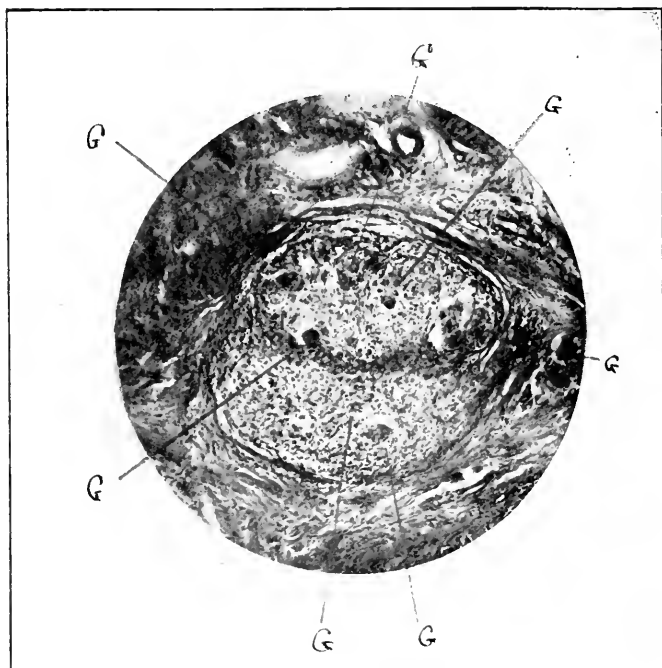
Circumscribed tubercle deep in corium. Zeiss, 16 mm. apochromatic; ocular, 2.

is the seat of an extensive lymphoid cell infiltration. The lymphoid cells tend to aggregate themselves in circumscribed masses and may be seen at all levels of the corium. Scattered among the lymphoid cells are epithelioid and giant cells. Deep down in the corium there is visible a tuberculous nodule consisting of a group of a half dozen or more giant cells surrounded by lymphoid cells, the entire nest being walled off on all sides by fibrous connective tissue bands. (Figs. 3, 4, and 5.) Near by are coils of sweat-glands exhibiting considerable lymphoid-cell infiltration. The papillary blood-vessels are enlarged and are surrounded by round cells. The deeper cutaneous vessels are greatly hypertrophied, showing thickening of the middle

and outer coats. (Fig. 6.) No tubercle bacilli could be found, although it must be admitted that they were searched for in a comparatively small number of sections.

Inoculation Experiments.—Two small hemp-seed-sized fragments of the growth were inserted with aseptic precautions beneath the skin of two guinea pigs. A third guinea pig secured from the same source was kept under the same environment as a sort of control test. Guinea pig No. 1, weight 201 grams, was inoculated on November 9th; died

FIG. 4.



Enlarged view of tubercle, Fig. 3. G, giant cells.

116 days later, on March 5th. Weight at death, 317 grams. (The increase in weight was doubtless due to the natural growth of the animal, as it was quite young when received.) Autopsy showed extensive tuberculosis of the spleen, liver, lungs, and lymphatic glands. The spleen measures two by one inch in diameter, is almost entirely yellowish-white in color, with here and there a small patch of normal splenic tissue. The lungs are studded with miliary tubercles. The liver is extensively diseased, showing large areas of yellowish discolora-

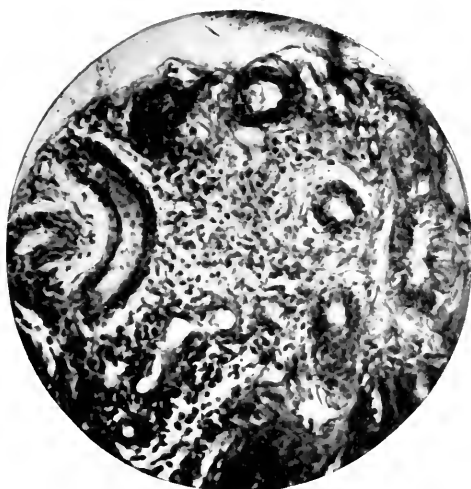
tion exhibiting upon their surface small miliary tubercles. The retro-peritoneal glands are greatly enlarged, particularly in the region of the inoculation wound. The scar of the wound is congested, but otherwise healthy; no edema or infiltration present.

An older guinea pig (No. 2), inoculated at the same time, was killed on March 8th, 118 days after the date of inoculation. Autopsy showed at the site of the wound a cold abscess containing a creamy pus. The liver is the seat of a number of yellowish tuberculous nodules. The spleen and lungs are normal.

The third guinea pig (not inoculated) had far outgrown both the others and remains well to date.

The above described growth cannot with accuracy be classed under

FIG. 5.



Highly magnified sweat-gland showing lymphoid cell infiltration.

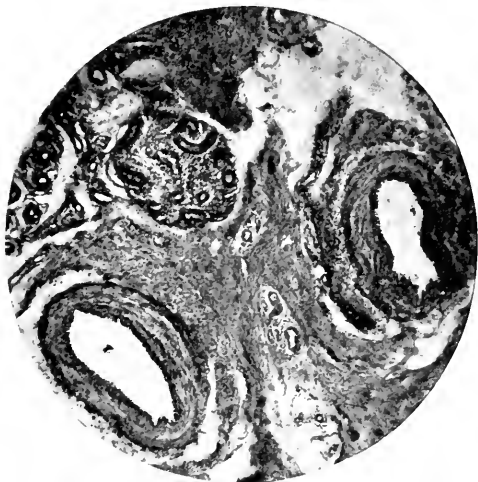
any of the existing clinical types of tuberculosis cutis. It would certainly be inappropriate to designate it a verrucose tuberculosis, for clinically there is no warty element present. The lesion is a soft, rather vascular tubercle. Microscopically, however, the picture bears a very close resemblance to tuberculosis verrucosa cutis. As would be expected, the hypertrophy of the horny layer is much less marked than ordinarily seen in this condition. A point of interest is the depth at which most of the tuberculous elements lie. The best-marked tubercle is seen in the pars reticularis. The fibrous walls about this nodule suggest an effort on the part of nature to prevent a dissemination of the exciting organisms. The depth of the process is further

indicated by the extensive cell infiltration about the deeper sudoriparous glands.

The long time elapsing between the date of inoculation of the guinea pigs and their death is probably to be accounted for by the paucity of tubercle bacilli in the tissue inoculated. Ordinarily guinea pigs inoculated with tuberculous material die in six or eight weeks. One of the guinea pigs employed only began to sicken and show evidences of tuberculosis four months after the inoculation.

The case is of interest as an instance of a tuberculous infection

Fig. 6.



Greatly hypertrophied cutaneous blood-vessels.

of the skin occurring as a result of a professional manipulation. It would be well for laryngologists, and likewise other practitioners of medicine, to bear in mind that contact of the hands with the saliva or oral mucous membranes of patients suffering from tuberculosis of the upper air passages is not unattended with danger, particularly when there exists an abrasion of the skin of the hands. Whilst such inoculations do not ordinarily lead to general infection, dermatologic literature records a sufficient number of such accidents to demand prompt and vigorous treatment of the condition as soon as it is recognized.

Society Transactions.

NEW YORK DERMATOLOGICAL SOCIETY.

285TH REGULAR MEETING, JANUARY 23, 1900.

JAMES C. JOHNSTON, M.D., *President*.

A Case of Tinea Versicolor or Pityriasis Nigra.—By DR. C. W. ALLEN.

The boy had come into this country last April, passing the quarantine with a very well marked favus. The special interest attaching to the case was the extreme blackness of the neck, which made it look dirty. Another interesting feature was the extension of the chromophytosis upon the sides of the face and up to the margin of the hair on one side, a condition to which he had already called attention, although some text-books state that the affection does not occur upon the face. The back of the scalp was also invaded to a slight extent from the neck.

DR. PRINCE A. MORROW said that the extension of the disease on the face and neck was very unusual, as was also the peculiar discoloration of the neck. Chromophytosis of the face and neck was exceedingly rare.

DR. GEORGE H. FOX said that in rare instances he had seen the disease extend up on the angle of the jaw, and on the face, but he had never seen it present this dark color, and he was inclined to think in this case it was not a part of the disease, but due to lack of cleanliness. He looked upon the picture presented as the result of a combination of chromophytosis and dirt.

DR. J. M. WINFIELD took the same view regarding the dark discoloration.

DR. ALLEN said that he thought the black color was partly due to dirt, and partly to atmospheric influence upon the fungus itself. In another case that he had seen in a young woman, the patch, which had extended upon the cheek, was quite dark. In that instance the woman had repeatedly washed and scrubbed it, yet the dirt color could only be removed temporarily.

A Case for Diagnosis (Horny Lesions in the Axilla, etc.).—Presented by DR. G. H. FOX.

DR. FOX said that some time ago he had shown an extremely nervous woman, who had presented a colorless papular eruption in the axilla, around the nipples, and on the pubic region. The case about to be presented had a similar eruption in the same localities. Both patients had lost much sleep, and had suffered greatly from the itching. The eruption had not spread, and the most vigorous treatment had had practically no effect. These were the only two cases of the kind that he had met with.

DR. H. H. WHITEHOUSE said that it corresponded exactly with the case previously reported by Dr. Fox. It was a keratosis of some kind.

DR. GEORGE T. ELLIOT was inclined to look upon the case as more or less of a neurosis, the clinical evidence in the skin being the result of scratching.

DR. H. KLOTZ said that he had found Unna's ointment of carbolic acid and corrosive sublimate, originally recommended for lichen planus, exceedingly satisfactory for itching eruptions like the present one.

DR. FOX said that, at times, the appearance presented by the two cases had been exactly the same, and the localization was certainly identical. The eruption was follicular, but it was not a keratosis. The neurotic element in each of the cases had been marked. He had painted the lesions with strong nitrate of silver, strong carbolic acid, chrysarobin, and other remedies, but none of these applications had had any appreciable effect. In both cases the itching had been intolerable.

A Case of Dermatitis Herpetiformis.—Presented by DR. FOX.

This man had suffered from a pruriginous eruption on the gluteal region for seven or eight years. The chronicity, the recurrence of the attacks, and the intense pruritus had led him to believe that it was a localized dermatitis herpetiformis.

DR. FORDYCE said that he did not know what other diagnosis could be made in such a case. The nodular character of the lesions and their long persistence would, however, be somewhat against the diagnosis of dermatitis herpetiformis.

DR. JACKSON took the same view because of the long duration, the recurrences, and the history that it was sometimes vesicular.

DR. FOX said that he had seen some cases of dermatitis herpetiformis limited to certain regions, but did not remember having seen one before limited to the gluteal region. He would base the diagnosis almost entirely on the history given, and emphasized by the preceding speakers.

A Case for Diagnosis (Erythematous Lesion of the Face).—Presented by DR. FOX.

The patient was a man of forty years. Twelve weeks before the lesions had started on the forehead and nose, with great swelling of the face and eyes. In four weeks the swelling had been reduced, but the redness had increased. There had been occasional pimples on face and nose. He had no trouble with his teeth or with his nose. He experiences a slight feeling of warmth in the affected parts at times. The eruption has spread onto the forehead, but not on the ears. The man was engaged in handling wood, and although he has been repeatedly exposed to poison-ivy, has never been affected by it. Examination of the lungs and of the urine had given a negative result. Examination of the blood showed 13,000 leucocytes to the micro-millimeter. His temperature is 100° F.

DR. SHERWELL said that he had examined the nose with illumination to see if the condition was erysipeloid, from the lesions, as the appearance suggested this. The examination of the nose had been negative. The man had given him a history of more or less rheumatism, and he was inclined to believe that it was largely due to this.

DR. ALLEN deprecated the use of the term "erysipeloid" in this connection, because it had been applied of late years to a disease of a different nature. Personally, he did not believe it had any real connection with erysipelas, nor did he think one was warranted in speaking of it as an elephantiasis. Indurating erythema might be a more descriptive term.

DR. JAMES C. JOHNSTON said that this was the condition which Kaposi called erysipelas perstans, and which he attributed directly to some lesion in the nose.

He felt sure that the case just presented was one of this kind. The affection began by a blocking of the lymph spaces in the skin, and finally elephantiasis resulted.

DR. FORDYCE agreed with the last speaker that the condition was probably an infection from the nose through the lymphatic vessels, either by bacteria, toxins or other toxic products.

DR. WINFIELD said that ten days ago he had seen a similar case, which had lasted three weeks. It had begun over the right temple, and had existed, for the most part, on one side of the face. The lymphatics had been involved. The temperature had remained at about 99° F. The swelling would occasionally subside for a brief period.

DR. WHITEHOUSE thought the eruption belonged to the category of indurated erythema from lymphatic obstruction, though it was more extensive than in previous cases that he had seen arising from nasal disease. He found it difficult to explain why the eruption had extended to the lower lip, and even on to the chin.

DR. JACKSON said that if such a lesion were on the leg there would be very little difficulty in making a diagnosis of elephantiasis. He thought it was due to some lymphatic disturbance. The fact that the face and neck were both affected seemed to bear out this view.

DR. KLOTZ said that the clinical picture was very much like that of dermatitis venenata. An occupation exposing the person to the fumes from certain chemicals might explain the appearance. He believed that applications of 50 per cent. ichthyol would prove beneficial in the case.

DR. ELLIOT asked why this was spoken of as a "lymphatic obstruction," because, pathologically, lymphatic obstruction never produces symptoms of this kind, and never produces elephantiasis. The experiments of Cohnheim and of others had shown that it was venous obstruction, and never lymphatic obstruction which produces this condition. A discussion had been held on this subject some time ago at a society in which Dr. Brewer was present. The case was one of elephantiasis of the skin and penis following operation for bubo. The speaker said that he had at that time claimed that it was due to venous, and not to lymphatic, obstruction, and his statements had been corroborated by Dr. Brewer, who had been in Cohnheim's laboratory. It was not more than four or five years ago that Unna had brought out the whole literature connected with this fact. He had himself seen elephantiasis of the leg as a result of a bubo, and other cases as a result of a deep scar at the saphenous opening. He had seen elephantiasic enlargement of the arm from a scar left in the axilla after an operation for carcinoma of the breast. The venous circulation is able to take up all the fluid which interference with the lymphatic circulation causes to be exuded; whereas the lymphatics are unable to do this.

DR. FOX said that the term "indurated erythema" had been applied to cases which seemed to him entirely different in character from the one under discussion. He had seen one or two cases of what might be called erysipelas perstans dependent upon a diseased condition of the nose. The affection had generally been limited to the face, but in the patient just presented the ears, cheeks and chin were all involved. In its course and appearance it was quite similar to elephantiasis of other parts of the body. He had never seen a case of elephantiasis of the face, and if the lesions in the present case should persist and become harder, and should remain permanently enlarged, there could not be much doubt about the diagnosis.

A Case of Biskra Bouton.—Presented by DR. P. A. MORROW.

This was a young man, a Syrian, who had been in this country only about three months. The lesion, especially back of the neck, presented the appearance of a tubercular neoplasm, somewhat hard to the feel and apparently inflammatory in character, quite itchy. It had existed, according to the patient's statement, about six months altogether.

DR. WHITEHOUSE said that he had seen only one case of Biskra bouton, and it did not present the same appearance as the one just exhibited. This case resembled more a keloid.

DR. MORROW said that he had found by careful inquiry that there had been no scar produced there by a cutting instrument. The patient stated that the white line observable had been produced by scratching.

DRS. FORDYCE and SHERWELL inclined to the view that it was a keloid.

DR. FOX said that it looked like a keloid or a hypertrophic cicatrix, and if the patient were a negro he would feel almost sure that this was the true diagnosis.

DR. MORROW said that his diagnosis of this case had been based very largely on the statement of the patient's friend, that similar lesions were common among his countrymen, and that they disappeared in about one year. Of course, the appearance did not conform with that described as existing in the ulcerative stage of this disease, but this feature was generally regarded as a result of accident and not a part of the disease. Again, the lesion seemed to be softer than any keloid.

A Case of Perforating Ulcer of the Foot.—Presented by DR. SHERWELL.

The patient was a woman, forty-eight years of age, who had previously been healthy; was first seen December 14. About six years ago a blister had appeared on the sole of the right foot, without traumatism or other evident cause. It had grown slowly worse, and although it had been seen by several physicians no relief had been obtained. The case as seen then he thought had a classical appearance of a perforating ulcer of the foot. The central core, the indurated ring of thickened tissue forming a zone around it, and the circumvallating ulcer were all perfect. She had been directed to wear a wooden-soled shoe, so arranged as to avoid pressure on the part, put on salines, and alterative treatment, and had also been given an ointment containing mercury and salicylic acid. When next seen, the edges of the ulcer were softer and appeared more healthy. Two weeks later he had again, as at first, touched the ulcer thoroughly with the acid nitrate of mercury. He had been unable to discover any evidence of disease of the central nervous system. Decidedly different appearance from when first seen, now unsettled the diagnosis.

DR. JACKSON said that while he did not accept this diagnosis, he was not prepared to make a diagnosis without further examination.

DR. KLOTZ also thought the lesion did not present the usual features of a perforating ulcer.

DR. MORROW objected to the perforating ulcer diagnosis on account of the localization of the lesion. He doubted if this ulcer would be found to be connected with necrosed bone, as most perforating ulcers were. Again, the aperture was much larger than in most cases of perforating ulcer, and from the duration of the case he was inclined to look upon it as an epitheliomatous degeneration of some lesion that had been on the foot.

DR. ALLEN said that the cases of perforating ulcer that he had seen had not resembled the case under discussion at all. In a case he had recently had under treatment of perforating ulcer of the heel the probe would pass in about one inch, but did not reach any dead bone. One of the two apertures had been small, but the cavity internally had been much larger. He was disposed to think that the patient now presented had had a wart upon the sole, which are not so uncommon in just this situation, and that it had undergone epitheliomatous change. He had seen quite a similar epithelioma on the palm, which had also lasted a very long time, before he destroyed it with arsenical paste.

DR. FORDYCE thought the clinical features were more like epithelioma than perforating ulcer. The fungating base of the ulcer was quite suspicious.

DR. WINFIELD said that the lack of any history of nervous disease, the peculiar location and the fungating base, all seemed to point toward epithelioma rather than perforating ulcer.

DR. WHITEHOUSE was of the same opinion.

DR. SHERWELL said that the present appearance certainly resembled very closely epithelioma, yet at the time of his first examination there had been a circular opening, and a deep canal extending down apparently through all of the soft tissues of the foot. At the time, the hardening around the deep excavation, and fungating point, he had regarded as sufficiently typical of a perforating ulcer. The lesion had entirely changed its character since that time. It was quite probable, from the present appearance, that it was an epithelioma.

A Case of Xanthoma Diabeticorum.—Presented by DR. SHERWELL.

The patient was a married woman, forty years of age and fat, who had come to his clinic on January 8th. She had enjoyed fairly good health, except that in childhood she had had corneal ulcer; no syphilitic history, congenital or other, obtainable. She had had four living children, and two or three miscarriages. The skin affection had been first noticed on the arms and nates in the fall of 1895. The eruption had been constant since that time, but relatively and positively less during the summer, and increasing with each year. The lesions seem, as far as his memory goes, the most extensive that he had ever seen, although markedly less now than when first seen, three weeks since. The nates, lower part of the back, and upper part of the thighs, the extensor surfaces of arms and legs, the nucha, the hands, palmar surfaces chiefly, the face in lesser degree, were affected, and are named in the relative order of their intensity. Scarcely any region was exempt except the eyelids near the canthus, the parts so commonly affected in xanth. planum. Examination of the urine had shown it to have a specific gravity of 1020, to contain a trace of albumin, and to give a marked sugar reaction, percentage not ascertained. She presented the usual subjective symptoms of glycosuria. He had placed her on regular antidiabetic diet, and very little medication in order to show her at meeting, and she had improved very satisfactorily, almost too much so, for show purposes, as the lesions had already diminished about 33 per cent. in amount.

DR. ELLIOT said that this was an exquisite example of this affection, and reminded him of one which he had had some years ago. In this case very many lesions around the flexor surfaces of the elbows, and knees, as they had undergone involution had resulted in keloid formation, so that keloidal "bridles" 1 to 1½ inches long and one-fourth of an inch broad, had been formed. Her urine had contained as much as 10 per cent. of sugar.

DR. H. A. ROBINSON said that the second case that had come under his observation, after having published his article on the subject, had been a patient of Dr. Sherwell. She had presented many lesions, and he had seen her for four or five months. He had repeatedly examined the urine, and had never found even a trace of sugar. She had had a parenchymatous nephritis, which had ultimately caused her death.

DR. MORROW said that at least two cases had been reported by Besnier in which sugar had been absent from the urine, but he had expressed the opinion that the urine had probably been examined at a time when it had happened to be free from sugar. It seemed not improbable that this was the correct explanation. Dr. Morrow said that he had had two cases of diabetes in which the sugar had disappeared for at least six or eight months before death, although albumin had been present in abundance, and the patients had died with symptoms of chronic nephritis.

DR. FOX objected to the name as misleading; one might just as well speak of "furunculosis diabeticorum." The diabetes might be a predisposing cause in some cases. He had several photographs of xanthoma, and they all showed a profusion of the lesions on the lower portion of the back and buttocks. In two of the cases there had been no sugar in the urine, or history if it having been there previously, yet the appearance was typical of that presented by those in which glycosuria had been present.

DR. JOHNSTON said that out of 35 cases of diabetic xanthoma reported, in only 3 or 4 had there been no glycosuria; moreover, when the glycosuria diminished, the eruption got better, and *vice versa*. There must, therefore, be some close connection between the two conditions. Almost all of the cases of xanthoma in which no glycosuria had been found had been very obese individuals, and it was well known that there was a distinct relation between obesity and diabetes. Regarding Dr. Elliot's observation, he would say, that he had also had a case in which there had been a marked keloid degeneration. It was, of course, possible for keloid to arise as a result of the enormous connective tissue proliferation. Besnier had asserted positively that the disease does not occur on the palms and soles, yet the case just presented had had lesions in these situations, and the same was true of Dr. Johnston's case already referred to.

DR. ELLIOT said that there were cases of xanthoma simplex, generalized over the body, in which there was no diabetes. He recalled a case of a boy of four or five years in which several hundred lesions had been distributed all over the body. Probably some of the reported cases of xanthoma without glycosuria had been really of this class, and not true xanthoma diabeticorum.

DR. FOX remarked that there was nothing clinically about diabetic xanthoma to enable one to distinguish it by sight, hence the criticism that he had already made regarding the use of the term "xanthoma diabeticorum."

DR. SHERWELL said that in the patient referred to by Dr. Robinson sugar had been found by him in the urine at first, but in small quantity, yet a short time afterward Dr. Robinson had been unable to find any sugar. He did not think he could have been misled in making the test by the presence of uric acid, as he adopted the plan of diluting Fehling's solution or testing with that particular fallacy in view, and he had taken great pains in the matter. Concerning the particular case under discussion, he would comment upon the remarkable improvement that had taken place in fifteen days as a result of an antidiabetic diet. The

percentage of sugar in the urine had greatly diminished along with this improvement in the eruption.

A Case for Diagnosis (Infectious Dermatitis).—Presented by DR. A. R. ROBINSON.

The patient was a man of 67 years, a florist by occupation, who had had the present cutaneous eruption for six weeks. It had begun on both hands with a crop of boils. The case was presented as an example of infective dermatitis. The back of the hands and fingers showed papillary outgrowths. At the periphery the epidermis was raised in blisters.

DR. FORDYCE said that the case impressed him as one of blastomycetic dermatitis. Last summer he had had, at the City Hospital, a peculiar ulceration of the leg, followed by a warty outgrowth. It had extended rapidly, and wherever the secretion had been carried by the finger a pustule had formed. Microscopical examination in that case had failed to show the presence of any blastomyces.

DRS. ALLEN, ELLIOT and SHERWELL concurred in the diagnosis just given.

DR. MORROW said that the general features of this case seemed to him very much like a case seen by him in the City Hospital, under the care of Dr. Fordyce.

DR. ROBINSON said that he had had no opportunity to study this case carefully as yet, but he would do so and report at the next meeting.

Photomicrographs from a Case of Endothelioma.—Presented by DR. J. A. FORDYCE.

He said that as there has been some discussion on endothelioma at the last meeting, he desired to present photomicrographs from a case of endothelioma that had originated from a scar of a lupus. He will report the case at length.

Notice.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

*Fourteenth Annual Meeting to Be Held at the Raleigh Hotel, Washington, D. C.,
May 1, 2 and 3, 1900.*

FIRST DAY—TUESDAY, MAY 1ST.

MORNING SESSION AT 10 O'CLOCK.

1. "Report of Some Cases of Renal Surgery, with Remarks." By Francis S. Watson, M.D., of Boston.
2. "On Chronic Pyelonephritis and Its Pathogenic Relation to Disease of the Opposite Kidney." By John P. Bryson, M.D., of St. Louis.
3. "Some Observations upon Hydronephrosis." By A. T. Cabot, M.D., of Boston.
4. "A 'Gonorrheal' Kidney. Demonstrated by Culture Methods." By Bransford Lewis, M.D., of St. Louis.

5. "General Sepsis following Gonorrhea." By Geo. E. Brewer, M.D., of New York.
6. "The Modern Urethroscope." By W. K. Otis, M.D., of New York.
7. "Radical Treatment for Curvature of the Penis." By Eugene Fuller, M.D., of New York.

SECOND DAY—WEDNESDAY, MAY 2ND.

MORNING SESSION AT 10 O'CLOCK.

1. "The Best Method for Obtaining Urine Direct from the Ureters for Diagnostic Purposes," being the subject decided upon by the Council for especial consideration and discussion.

The discussion will be opened by Dr. F. Tilden Brown of New York, followed by Drs. W. K. Otis and Alexander of New York.

Dr. Malcolm L. Harris of Chicago has also accepted the invitation of the Association to take part in the discussion.

2. "A Ureter Cystoscope (for Male or Female) built on a New Model." By Bransford Lewis, M.D., of St. Louis.
3. "(a) A New Electro-Cystoscope. (b) A Cystoscope for the Catheterization of Both Ureters." By W. K. Otis, M.D., of New York.
4. "Anterior-Posterior Sub-divisions of the Bladder; an Important Anomaly." By Eugene Fuller, M.D., of New York.

THIRD DAY—THURSDAY, MAY 3D.

MORNING SESSION AT 10 O'CLOCK.

1. "Prostatectomy for the Relief of Enlargement of the Prostate. (a) The Technique of Perineal Prostatectomy, with Photographs. (b) The Indications for Operation. (c) The Ultimate Results of Operation." By Samuel Alexander, M.D., of New York.

2. "Deformities of the Prostate." By Ramon Guiteras, M.D., of New York.

3. "Cancer of the Prostate, with Specimens." By E. E. King, M.D., of Toronto.

4. "On the Differential Diagnosis of Circumscribed Lesions of the Upper, Middle and Lower Parts of the Ureter." By John P. Bryson, M.D., of St. Louis.

5. "Acute Abdominal Symptoms Associated with a Congenital Malformation of a Ureter in a Child." By Charles M. Scudder, M.D., of Boston.

6. "Bacteraemia Associated with Congenital Dilatation of a Ureter." By Geo. K. Swinburne, M.D., of New York.

7. "Rupture of the Urethra. Report of Cases." By J. Raynor Hayden, M.D., of New York.

Selections.

CUTANEOUS DISEASES.

Gangrenous Dermatitis Complicating Typhoid Fever.—B. FRANKLIN HAHL, B.S., M.D. (*The Amer. Journ. of the Medical Sciences*, vol. 119, 1900, p. 251).

Out of 144 cases of typhoid fever occurring in soldiers who were treated in the wards of St. Agnes' Hospital, ten presented, in varying degrees of severity, gangrenous dermatitis, the rarest of all the complications of typhoid fever.

The author expresses the opinion that the disease was of embolic or thrombotic origin. The following symptoms lend weight to this assumption: An almost absent or exceedingly feeble first sound of the heart in five of these cases; the cyanosis of the skin of the extremities that preceded the necrosis in one instance, and the hyperemia of the face in another instance; the muscular sound of the heart and the accentuation of the second sound; arterio-sclerosis of most pronounced type in a patient of nineteen years, and its presence in a pronounced degree in a large percentage of the entire series of cases of typhoid fever in men, most of whom were under twenty-five years of age; the oval shape of several of the areas, and the subsequent development of phlegmasia.

Dr. Walsh's bacteriological examinations of unbroken vessels gave cultures of staphylococcus pyogenes albus and aureus, no other bacteria being found. A culture from an ulcer after the vesicle had broken down showed the staphylococcus albus and aureus in large numbers and, in addition, large numbers of diplococci were found.

One of the nurses inoculated herself with the disease by bringing a swab used in cleansing one of the gangrenous patches in contact with a place on her hand where the skin was broken. From this case cultures identical with those secured from the gangrenous one were obtained.

In the cases reported the trunk was the most frequent seat of the disease, and the face, the anus, the thighs, and, in two instances, that terminated in death, the scrotum were involved. In only one case did the disease attack the foot.

The treatment of these necrotic areas consisted in cleansing them and applying acetanilid and bovine; internally they were given whiskey, strychnine and iron. Three of these ten cases died, and in two instances autopsies were held.

A Case of Multiple Gangrene in Malarial Fever.—WILLIAM OSLER (*Johns Hopkins Hospital Bullet.*, vol. XI., 1900, p. 41).

Patient 23 years old, had malaria when 10 years old; typhoid fever twice, last attack four months before onset of present illness. A month before the attack, taken ill with supposed influenza, which was more probably malaria. On examination the spleen was found to be considerably enlarged. Though his history did not suggest malaria, nevertheless the blood was examined and very large numbers of estivo-autumnal organisms were found. The crescents were in unusually large numbers. Cultures were taken from the blood, but proved negative. There was no leucocytosis and the differential count was practically

normal. The eosinophiles showed only two per cent. The first eruption upon his skin was in the form of blebs about half an inch in diameter on both hands, which were slightly swollen. The next day a mottled area appeared on the instep of the left foot. The blebs broke and discharged a dark fluid; the skin around the affected area was very red. There was no itching. The gangrenous spots appeared in various locations—right hand, right foot, left foot, left buttock, and occiput, extending rapidly.

The patient was given quinin in full doses and he began to improve rapidly. Simultaneously with the disappearance of the crescents, the gangrenous patches began to improve and lastly healed. On the feet the sloughs had separated, leaving deep ulcers. The urine examinations were negative throughout.

On Cases of Pityriasis Rubra.—MALCOLM MORRIS (*The Polyclinic*, vol. II., 1900, p. 35).

Lecturing before the Medical Graduates' College in London, Morris presented a child of four years of age, who was affected with pityriasis rubra. The first trace of the affection noted by the mother was a few small, rough, scaly patches upon the nose, which appeared when the child was about seven months old, and in about 18 months time the eruption had become practically universal and has remained so ever since. The nails are thickened, opaque, and longitudinally ridged, but none of them have been lost. The general health remained unaffected.

In discussing the foregoing case the author gave the history of a very interesting case of pityriasis rubra which he saw in a servant girl of 17 years of age, and which was due to a drug eruption. The girl was brought into the hospital with a few small patches of psoriasis in the typical situations. An ointment of chrysarobin was prescribed and the first application was followed by a fierce attack of inflammation all around the patches, which rapidly spread over the entire body, accompanied by high temperature and severe malaise and resulted in the shedding of the horny layer over the entire body, including complete loss of the hair and nails. When she was recovering a relapse was brought about from a single dose of quinin.

He looks upon the disease as an expression of some form of intestinal toxæmia. The disease may represent an extreme stage in the development of a variety of skin diseases, although it must be admitted that it also appears as a substantive affection.

The Origin of the Pigment of the Skin in Addison's Disease.—PFOERRINGER (*Cent. f. Path. u. Path. Anat.*, XI., 1900, p. 1).

Having an opportunity to observe clinically a patient with Addison's disease, a girl of 24, and perform the necropsy upon the same, the author contributes his investigations upon the origin and mode of transportation of pigment. The most interesting feature of the necropsy was the condition of the suprarenal glands, which were both totally destroyed from tuberculosis; there was chronic tuberculosis of the adnexa of the uterus and isolated areas of tuberculosis in the right kidney, lungs and retro-peritoneal glands. There was neither family nor personal history of tuberculosis. The changes in the solar plexus consisted in pigmentary atrophy of the ganglion cells.

The microscopical examinations of stained (carmine) sections of various parts of the skin showed the presence of large deposits of pigment in the cutis.

Brown pigmentary deposits were also found in the blood-vessels. The pigment could be seen free in the vessels or enclosed in blood corpuscles. He observed that the pigment came directly from the vessels, appearing in many sections, in process of emigration, half in and half out of the capillary vessels. Whether the connective tissue cells take up the pigment and transport it to the epithelium, or whether the pigment is transported directly from the vessels without the intermediary of the connective tissue cells, to the epidermis, he cannot decide. But owing to the fact that the vessels are in some places separated from the epithelium, only by a very thin layer of connective tissue, he is inclined to accept the direct transmission.

Treatment of Lupus and Skin Diseases with X-Rays.—ALBERS-SCHONBERG and HAHN R. (*Münch. mdz. Wochenschr.*, 47, 1900, pp. 284, 325 and 363).

In an exhaustive article the writers consider the action of X-rays upon diseased and healthy skin; they followed up the microscopical changes of the affected skin under the influence of X-rays by microscopical examinations, and after reporting a series of cases, arrive at the following conclusions:

1. X-rays act favorably upon lupus and other skin manifestations.
2. They remove concomitant eczema and elephantiasic infiltration around the lupus, and, are (3) consequently of value when we have to treat flat, large surfaces.
4. Relapses occur with this method as well as with others, and (5) other methods are not excluded when X-rays are applied.
6. By judicious use and sufficient technical knowledge all the undesirable after effects, as dermatitis, excoriations, gangrene, etc., are surely avoided.

Skin Pigmentation in Lichen Ruber Planus and in Other Dermatoses.—S. EHRMANN (*Wien. mdz. Wochenschr.*, 50, 1900, p. 460).

The author took advantage of a case of lichen ruber planus with concomitant vitiligo patches, which came under his observation, to study the development and distribution of the pigment appearing during the course of lichen. The sepia color of the lichen ruber papules which appeared upon the vitiligo patches, were entirely absent, the lichen papules upon those places disappeared without leaving any pigmentary patches.

The Occurrence of Tuberculosis Verrucosa in Coal Diggers.—(RIEHL and PALTAUF.) By JOH. FARRY (*Arch. f. Derm. u. Syph.*, 51, 1900, p. 69).

During a period of eight years sixty cases of tub. verruc. cutis came under the author's observations. Among the sixty persons, fifteen were coal diggers. Clinical and histological studies of the cases lead the author to regard this type as a distinct form of tuberculosis, which differs both from lupus papillosus and post-mortem warts, clinically as well as histologically.

The opportunity of watching cases with developed tub. verr. cut. upon one hand, and simultaneous beginning of the process upon the other, permitted the author to study the development of the primary lesion. According to him the primary lesion never appears in the form of a lupus nodule, but as a permanent, small, brown-red patch, which is covered with minute, white, shiny scales. The redness disappears on pressure, reappearing when the pressure is relaxed. The

patch is hardly raised above the skin level, but it is harder and rougher than the normal skin. Such a patch may remain unchanged for months and longer. Typical giant cells were found in such primary erythematous patches, not only in the upper layers of the skin, but in the layer of the glands. The occurrence of the disease in coal diggers is explained by the continual exposure of the workers to superficial injury of the hands, and the unfavorable surroundings. The disease is propagated either as true vaccination tuberculosis or as an auto-infection. The course of the disease is even slower than lupus; the plaques grow peripherally, having a tendency to heal spontaneously in the centre. Isolated nodules are *never* seen in this form. It is also of a more benign character than other forms of skin tuberculosis. Removal is the best treatment.

Remarks on the Nosology of Condyloma Acuminatum.—G. RASCH (*Dermat. Centrbl.*, III., 1900, p. 162).

Out of 118 patients suffering with condylomata, only 40 had gonorrhea simultaneously, while 58 did not present any symptoms of gonorrhea when affected with condylomata, although some of the 58 have had, previously, one or several attacks of gonorrhea. Judging from these cases, the author concludes that condyloma has no relation to gonorrhea, that it is a parasitic disease, having a good deal in common with warts and molluscum contagiosum. The period of incubation is between two and four months. Lately, Cathcart reported a direct transmission of condyloma, and Ducrey and Oro demonstrated psoriosperm-like bodies in the growths.

GENITO-URINARY DISEASES.

The Treatment of Phosphaturia.—KLEMPERER (*Die Therapie der Gegenwart*, Aug., 1899).

The writer mentions some of the causes of phosphaturia, the most common being a vegetable diet and various neuroses. The treatment consists in increasing the acidity of the urine. He quotes Minkowsky's special emphasis on the diatetic treatment of this condition. Minkowsky highly recommends albuminous foods in plenty (meat, eggs, cheese, cereals and legumins), and cautions against eating potatoes, vegetables and fruits.

When the phosphaturia is due to motor insufficiency or hyperacidity of the stomach of neurotic origin, the nervous trouble must receive proper attention before improvement in the condition of the urine is to be expected. There is no universal dietetic treatment for all cases of phosphaturia; the physician must select a regimen that will suit the particular nervous condition of each patient. The moral influence of the physician is also of the greatest importance, since most of the patients are more or less neurasthenic.

Klemperer allows his patients mixed foods, warning them however, against drinking much water; acidulous drinks are permitted. He has frequently employed hydrotherapy and electricity in this condition and has sent many patients to the sea-shore, and a few to the mountains.

(*Monats. des Harn- und Sexual-Apparates*. Vierter Band, 11 Heft.)

Treatment of Gonorrhea in Males.—KISS (*Pester. Med.-Chirurg. Presse*, 1899, No. 39).

The most important elements in the treatment are the destruction and removal of the gonococci, and the maintenance of antiseptics in the urinary canal. The cure is not brought about so much by those remedies which destroy the gonococci above as by those which act on the mucous membrane as well.

The writer employed irrigations with sterile water and found that in many cases, for hours, and sometimes even for a day, no gonococci could be found in the discharge and that the latter had decreased in amount.

The speedy improvement following urethral irrigations speaks for the remarkable resisting power of the mucous membrane against invasion by the gonococcus. The urethral mucous membrane must, for this reason, be zealously guarded against further injury, should abortive measures fail.

Kiss believes that cases in which treatment is begun early are cured more quickly than those in which it is begun late. He considers the Janet method imperfect, in that the surgeon cannot always limit its action to the anterior portion of the urethra, if he so desires; and at times irrigation of the posterior urethra is difficult, even if the urethra be cocaineized. In acute cases, serious injury may follow the method of forcing the resistance offered to the passage of the fluid into the posterior urethra. Local treatment is suspended temporarily, when the reaction following irrigation of the posterior urethra is severe; it is then resumed. In subacute and chronic cases irrigation of the entire urethra is usually not a difficult matter, although a soft rubber catheter is preferred for this purpose. Neisser's prolonged injections are regarded as useful, not because of the protargol, with which the method has become associated, but because it furnishes a more precise form of antiseptics.

Cure cannot be pronounced complete so long as the urethroscope shows evidence of changes in the mucous membrane. If these changes are of slight degree, silver nitrate will affect a cure; in all case, dilatation, preferably by the Oberlander method, is of the highest value.

(*Monats. des Harn- und Sexual-Apparates*, Vierter Band, 11 Heft.)

A Case of Anuria of Eight Days Duration, Caused by a Calculus of the Ureter.—DOEBBELIN (*Deutsche Zeitschrift für Chirurgie*, 1899).

The patient was a man of 59, who had suffered from renal colic for ten years, and who first passed some small calculi with the urine, some five years ago. Every three or four weeks since then these stones have been passed, usually without pain.

One day he was brought into the hospital suffering from complete retention of urine, which had existed two days. There was pain in the left lumbar region and exquisite tenderness on palpation. The joints throughout the body were slightly edematous. As the retention could not be relieved, the left kidney was exposed on the fifth day by an extraperitoneal incision. The organ was found considerably swollen. The pelvis of the kidney was incised and, by means of a probe inserted into the ureter, a stone was felt; during the efforts at its extraction, however, the stone was pushed into the bladder. The lumbar wound was closed in the usual way and drained, and the next day a great quantity of cloudy urine came out in this way. The first passage of urine through the urethra occurred on the fourth day after the operation, and consisted of but 100 cubic

centimeters. Regular micturition began on the twenty-sixth day, upon which the existing uremic symptoms disappeared.

The author calls attention to the complete anuria following obstruction in but one ureter, and concludes that in patients suffering from gravel of many years duration the kidney undergoes complete degeneration, the other kidney maintaining its function.

(*Monats. des Harn- und Sexual-Apparates*. Vierter Band, 11 Heft.)

A Case of Arthropathy, Muscular Atrophy and General Cachexia of Gonorrheal Origin.—LAUNOIS (*Le Progrès Médical*, 1899, No. 30).

The patient had suffered from gonorrhea six times. He was exceedingly cachectic and in addition he had arthropathy and muscular atrophy of the lower extremities, keratosis of the toes, with loss of the nail of the great toe. The feet were deformed and were in a state of adduction. The patient also had urethral stricture and cystitis. The urine contained pus, in which gonococci could not be found; the bacillus coli was present, however.

The writer believes that the condition was of gonorrheal origin, or rather was brought about by the action of the toxine of the gonococcus, which overcame the morbid nervous system of the patient.

(*Monats. des Harn- und Sexual-Apparates*, Vierter Band, 12. Heft.)

Gonorrheal Lymphangitis.—MIRABEAU (*Centralblatt für Gynäkologie*, 1899, No. 41).

While operating on a patient suffering from gonorrheal metritis, the author pricked the tip of his thumb with his scalpel. A simple lymphangitis followed. In the meantime there developed, at the site of the puncture, a round pustule, the size of a pin-point, the bloody-purulent contents of which showed the presence of typical gonococci.

(*Monats. des Harn- und Sexual-Apparates*, Fünfter Band, 2. Heft.)

Contribution to the Study of the Treatment of Urethritis by Protargol and Picric Acid.—THOMAS (*Ann. de dermat. et de syph.* 1899, 10).

Thomas treated five cases of acute gonorrhea with protargol irrigations; seven cases of chronic gonorrhea with instillations of protargol; twelve cases of non-gonorrheal urethritis and seven cases of tubercular urethritis in the same way; six cases of tubercular urethritis with instillations of picric acid, and four cases of gonorrheal cystitis with protargol instillations.

He concludes that in acute gonorrhea, protargol and picric acid have no advantage over permanganate of potash, which he prefers. The use of the picric acid was followed by a profuse discharge. In chronic urethritis 5 per cent. protargol instillations are recommended, the results being quite as good as with silver nitrate; they are not irritable and if done every day bring about a speedier cure. In the tubercular cases protargol was fairly successful, although picric acid gave the best results, a marked improvement.

(*Monats. des Harn- und Sexual-Apparates*, Fünfter Band, 2. Heft.)

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Original Communications.

THE GONOCOCCUS: A REPORT OF SUCCESSFUL CULTIVATIONS FROM CASES OF ARTHRITIS, SUBCUTANEOUS ABSCESS, ACUTE AND CHRONIC CYSTITIS, PYONEPHROSIS, AND PERITONITIS.*

By HUGH H. YOUNG, M.D.,

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IT was only a few years ago that the pathogenicity of the gonococcus was supposed to be confined to the urethra, but of late clinical and bacteriological evidence has been accumulating to show its extended powers of infection.

The gradual development of satisfactory culture media is largely responsible for the progress made.

For the most successful cultivation of the gonococcus the presence of albumin, preferably human albumin, is necessary, and various materials and methods of manufacture have been proposed, the means of sterilizing the albuminous fluid being the most important item.

For the past three years I have been using a hydrocele-agar which has been prepared as follows:

The fluid (hydrocele, or ascitic) is obtained sterile, the locality of puncture being carefully sterilized by modern surgical methods, the sterile trocar covered at its external end with sterile gauze so as not to be infected by the operator's hand, and the fluid collected in sterile flasks, the sterile stoppers being then replaced. Collecting the fluid in this way we have very rarely had it contaminated, often keeping it several months before using it.

* This article will also appear in the "Welch Festschrift."

This fluid is mixed with ordinary nutrient agar. A number of common agar-slants are put in the autoclave for five minutes. This liquefies the agar and at the same time thoroughly sterilizes the tubes and cotton stoppers.

The slants are then put on a water bath at 55° C., so as not to coagulate the albumin when mixed with it. The stopper having been removed from a small flask of hydrocele fluid, the top of the cask is flamed, and the albuminous fluid is then poured into an agar-tube (the top of which has also been flamed) in proportions a little more than one to two.

It is well to have as much of the hydrocele fluid as the future solidity of medium will allow. Ordinary agar will allow not quite equal parts of the two. The cork is then returned to the agar-tube, which is immediately slanted.

When it is desirable to use plate cultures, sterile tubes containing about 7 c.c. of hydrocele fluid are used. These are inoculated and mixed with melted agar-slants at a temperature of 40° C., the two being poured separately into a Petri-dish.

The plate method is not as successful as the slant, presumably because the temperature of 40° which is necessary for proper mixture of the liquids is injurious to the gonococci. I have also found that the gonococci grow most abundantly on slants in or near the liquid which is squeezed out of media and collected in the bottom of tube.

There is no doubt but that the gonococci from different sources vary considerably in their cultural characteristics. I have frequently had cultures which maintained a vigorous growth after numerous transplantations. I remember one which was kept alive by students in the laboratory for more than three months. Then, again, there are others which grow only two or three times, or, indeed, only once.

REPORT OF CULTIVATION OF GONOCOCCUS FROM VARIOUS LESIONS.

1.—*Arthritis*.—The numerous cases now in the literature prove beyond doubt the frequency of joint infection by the gonococcus, and the varied character of the affection, from the simplest rheumatism to the most destructive suppurative arthritis.

All of the cases in which we obtained a culture of the gonococcus were of such severity as to demand arthrotomy with irrigation of the joint. It is only fair to state, however, that it has been the favorite and very successful practice of Dr. Halsted and his assistants to open, irrigate with bichloride of mercury, and then close the joints with sutures: and that many of the cases operated on were not very urgent,

and perhaps might not have been so treated elsewhere. But the good results secured speak for a more frequent performance of arthrotomy.

I will simply present a tabulation of our cases (see p. 244).

2.—*Abscesses Due to Gonococcus.*—Many of the early workers, Bumm, Neisser, Loeffler, Leistikow, and others, tried to produce abscesses and other lesions by the inoculation of the gonococcus into animals without success.

In 1891, Wertheim⁴ made two attempts to produce subcutaneous abscesses in the human being by inoculation of pure cultures of the gonococcus, but only obtained a localized induration, with some redness and pain, which disappeared almost entirely in three days, and from which no cultures were obtained.

Steinschneider,⁵ in 1892, injected a large amount of a gonococcus culture subcutaneously, but did not even obtain redness, pain, or infection.

These observations led to the belief that the gonococcus could not cause connective-tissue abscesses.

However, in 1893, Lang and Paltan⁶ reported a case of abscess of dorsum of hand, probably in connection with tenosynovitis, in which they found gonococcus on culture and coverslips.

Horwitz,⁷ in 1893 also reported a case exactly similar to the preceding, associated with a tendovaginitis. The gonococcus was obtained in pure culture on serum agar.

In 1895, Bujivid⁸ reported the first case of abscess which he considered certainly not connected with tendon-sheath infection.

Man, æt. 32, chronic posterior urethritis, with gonococci in urethral discharge. Two days after a catheterization, he suffered with severe chills for six days. Some days later four abscesses developed, situated in front of the left elbow, in the right popliteal fossa, on the inner side of left leg, and over the right external malleolus. "All of these abscesses were situated in the muscles, none in the cellular tissue, nor in an articulation. They gave at operation a thin pus without odor, reddish-brown in color." Cultures upon a serum agar and coverslips gave pure growths of gonococcus.

In 1897, Jundell⁹ reported a case of extensive subcutaneous abscess formation in connection with a metastatic tendovaginitis of the tibialis posticus muscle, coming on in the third week of gonorrhea. An incision 10 cm. long was made and a large cavity opened, which penetrated between the tendo Achillis and the deeper muscles. The tendon was necrotic in places. The gonococcus was obtained in pure culture from the granulations and the pus on ascitic-fluid agar.

The foregoing represent all the cases of abscess due to the gono-

TABULATION OF GONOCOCCUS FROM CASES OF ARTHRITIS, ETC., AT JOHNS HOPKINS HOSPITAL.

Date.	Hospital number.	Age.	Sex.	Duration of gonorrhea before admission.	Condition of urethritis on admission.	Joints or tendon sheaths involved.	Symptoms.		Treatment.	Contents of arthritis, etc.	Result.	Observer.	Media used.	Obs.
							Local.	General.						
1894 1239	39	M.	?	?	?	Tendon sheaths of ankle-joint.	Acute.	Mild.	4 wks.	Incision, irrigation, closure.	.....	Flexner.	Pig-fetus agar. Hydrocele-agar.	I.
1895 5954	2	F.	Acute.	Discharge.	Knee.	Severe.	Severe.	3 days.	do	Purulent.	Well.	Hagner.	Blood-serum agar.	II.
1895 6075	21	F.	Acute.	Discharge.	Knee.	Very acute.	Severe.	6 days.	do	do	Ankylosis.	Hagner.	Albumin-as urine agar.	III.
1897 6234	23	M.	5 wks.	Acute discharge.	Knees, elbow and shoulder.	Severe.	Fever prostration.	.....	do	do	?	Young.	Hydrocele-agar.	IV.
1897 6312	48	M.	No discharge.	No discharge.	Knee.	Slight.	None.	2 mos.	do	do	?	Garret & Young.	Albuminous urine agar.	V.
1897 6670	46	M.	6 wks.	Discharge.	Ankle.	Acutely painful.	Mild.	2 wks.	do	Serous.	Well.	Young.	Ascitic agar.	VI.
1897 6671	22	M.	2 mos.	Discharge.	Wrist.	do	None.	3 wks.	do	do	Well.	Young.	Ascitic agar.	VII.
1899 9521	42	M.	5 wks.	Discharge.	Knee.	Subacute.	None.	11 days.	do	Purulent.	Improved.	Follis.	Hydrocele-agar.	VIII.
1899 9622	22	M.	5 wks.	No discharge.	Knee.	Subacute; painless swelling.	Intermittent pyrexia.	3 wks.	Bathing in Hot air 7 days; Arthrotomy, irrigation, closure.	Purulent.	Not improved. Much improved.	Follis.	Hydrocele-agar.	IX.
1899 9620	20	M.	9 days.	Acute discharge.	Tendon sheath of wrist.	Moderately painful.	Pyrexia 101.5	5 days.	Incision, closure.	Purulent.	.....	Follis.	Hydrocele-agar.	IX b.

coccus which we can find in the literature, in which the organism was successfully cultivated, with the exception of several small periurethral infections, in which the gonococcus was grown from the pus.

With the exception of the case of Bujiuid, the primary metastatic focus was probably a tendon sheath in every case. And although Bujiuid declares that all four abscesses in his case were intramuscular, yet the situations he names, *viz.*, in front of elbow, in popliteal space, and over the external malleolus, are places richer in tendons than in muscles, so that there may be some question as to their intramuscular origin.

We wish to present five cases of subcutaneous abscesses in which, with the exception of Case 5, the gonococcus was found alone. In these also the lesion was adjacent to the urethra or some synovial membrane.

Case I.—Obs. X.—Acute gonorrhea of two weeks' duration. Periurethral abscess of one weeks' duration, one inch in diameter, from which gonococcus was grown in pure culture.

Examination.—Profuse urethral discharge, containing typical gonococci decolorizing by Gram. On inferior surface of penis, just behind frenum, is a fluctuating subcutaneous, periurethral mass about one inch in diameter, appearing as a considerable plaque beneath the skin. It cannot be evacuated into urethra by pressure. No external sinus or any communication with urethra found.

Cultures.—Skin covering the abscess sterilized with soap and bi-chloride; abscess cavity evacuated with sterile hypodermic, about 15 c.c. of thick yellow, tenacious pus withdrawn. Cultures taken on hydrocele-agar slants.

Coverslips show pus-cells, many of which contain typical gonococci, intra- and extracellular, which are decolorized by Gram.

After forty-eight hours many typical gonococcus colonies are seen on surface of hydrocele-agar, which show the usual morphology under the microscope, and quickly decolorized by Gram. Cultures on ordinary media negative.

Case II.—Obs. XI.—Acute gonorrhea. Large perineal abscess. Operation, incision. Evacuation of one ounce of pus, from which gonococcus in pure cultures was obtained on hydrocele-agar.

Surg. No. 6677. G. T., *et.* 21, male, single. Admitted July, 1897, with history of a gonorrhea beginning five weeks before, which was mild in its course, the discharge only lasting two weeks. One week later began to have pain in perineum, and a rounded swelling soon appeared, which has gradually increased in size. Urethral discharge has returned in last few days.

On admission patient presented an elongated swelling in the perineum, measuring eight by four cm. in area, and bounded by the attachments of the deep layer of superficial perineal fascia, *viz*, triangular ligament, and ischiopubic rami. Swelling very considerable, skin red, tense, and very tender. Fluctuation present.

Under ether, abscess incised by Dr. Bloodgood. One ounce of very thick yellow pus evacuated. The wall of abscess cavity was very peculiar in appearance, entirely unlike that of ordinary abscesses, being lined with ragged gray necrotic tissue which showed numerous hemorrhagic spots and bled very easily after the necrotic granulations were excised, the tissues beneath showed many small areas of recent hemorrhage. The abscess lay external to the bulbocavernosus muscle and beneath Colles' fascia.

Cultures were made upon ordinary agar and ascitic-fluid agar from pus which was collected in a sterile vessel. Slide smears showed numerous polynuclear leucocytes, but no bacteria were found.

The agar slants remained sterile, but on the ascitic-fluid agar abundant development of cocci which resembled the gonococcus typically, decolorizing completely by Gram, and refusing to grow on ordinary media, was obtained. Diagnosis: *Gonococcus* in pure culture.

In Jundell's case above referred to, he describes the abscess cavity as filled with dark-red, richly bleeding granulations. This case presented the same peculiar appearance. We have frequently seen very similar appearances within the synovial membranes of gonorrheal joints, and consider the process characteristic of gonococcus infection.

Case III.—Obs. XII.—Multiple gonorrheal arthritis. Gonococcus obtained in pure cultures from knee-joints. Knee-joints opened, irrigated, and closed. Fourteen and seventeen days later, superficial subcutaneous abscesses on region of incisions. Gonococcus pure from both abscesses. No communication with joint cavities.

History in Brief.—Surg. No. 6234. Young man about 23 years old. Gonorrhea of five weeks' duration. Arthritis began eleven days ago, and has rapidly involved both knees, left shoulder and elbow, right wrist and forefinger. Very severe general symptoms: high fever, intermittent chills, great prostration. The urethral discharge, which is slight, contains gonococci. Knee-joints badly involved, great swelling and fluctuation. Both joints aspirated and then freely opened, irrigated and capsule closed with interrupted silk and the skin with

Cultures.—A pure culture of gonococcus obtained on Marmorek's serum. No growth when transplanted to ordinary media. Gonococci pure (Gram) in tremendous number on coverslip from right knee. No growth from pus on ordinary media.

Wounds of both knees apparently healed per primam, but on fourteenth day an abscess was found beneath the skin at lower angle of wound of left knee. This was opened, and about 2 c.c. of pus escaped and a cavity 5 cm. long disclosed. No communication with joint, the sutured wound of which had healed per primam. Coverslips showed numerous typical intracellular gonococci which decolorized completely by Gram. Cultures taken on ordinary media remained sterile. Unfortunately, no tubes of gonococcus media were at hand. Four days later a similar subcutaneous abscess appeared beneath upper end of wound on right knee, from which coverslips showed a great many intracellular gonococci in pure culture (decolorizing by Gram). A culture in bouillon remained sterile. As successful cultures were previously obtained from joint, the presence of pure gonococcus infection of the abscesses is positive. In both cases the abscess cavities did not communicate with the joint, the sutured wound of the capsule in each case having healed per primam.

Case IV.—Obs. XIII.—Subcutaneous abscesses of dorsum of hand following closed incision for gonorrheal arthritis of wrist. Gonococcus in pure culture from joint and from abscess.

Surg. No. 6671, æt. 22, male. This case is included in the tabulation of arthritis cases. Abstract of history: Gonorrhea three months. Arthritis left wrist, three weeks. Joint slightly distended, very painful. Profuse urethral discharge. Gonococci in great numbers. Wrist joint aspirated, aseptic technique, 10 c.c. serous slightly cloudy fluid withdrawn, which, under microscope, contained many leucocytes.

Stained smears were made which showed leucocytes in great number, but although many preparations were made, only four organisms resembling gonococci and no other bacteria could be found.

Cultures, agar and bouillon: no growth.

Ascitic-agar, abundant growth of diplococci: morphologically same as gonococcus, and decolorized by Gram. No other organisms found. Transplantations on ordinary media negative.

Operation.—Under ether wrist-joint incised. Small amount of serous fluid evacuated. Irrigation $\frac{1}{1000}$ bichloride. Wound closed, silver, subcutaneous. This healed per primam, but at the end of seven days the dorsum of hand (below the incised wound) became swollen and fluctuating. Under aseptic technique hemostatic forceps were inserted into wound, and a large amount of nasty pus evacuated. The skin of wrist and dorsum was found dissected up from the deeper tissues, forming a large abscess cavity (about three inches in diameter). The tendon-sheaths were also involved.

Slide smears showed numerous leucocytes, many of which con-

tained typical gonococci, decolorizing by Gram. Often fifty or more gonococci were found in a leucocyte.

Cultures on plain agar remained sterile: on ascitic-agar unfortunately they became contaminated. Numerous examinations of subsequent discharge from wound showed the gonococcus pure for many days.

Case I'.—Obs. XII'.—Abscesses and fistulæ of perineum and scrotum, three years' duration, following gonorrheal stricture. Gonococcus present in great numbers associated with bacillus coli. Same organisms in aspirated urine.

Gonorrhea and stricture five years ago. Perineal section four years ago. Return of stricture followed by perineal abscesses, fistulæ, and later scrotal abscesses.

Examination.—(No urethral discharge noted.) Tight stricture of pendulous urethra not admitting filiform four cm. from meatus. Scrotum much enlarged and misshapen by numerous sinuses, abscesses, and masses of old scar tissue. From these sinuses yellow pus exudes. The perineum is also riddled with similar abscesses and sinuses. Suprapubic aspiration of bladder performed to obtain cultures.

Operation.—June 8, 1897. Scar tissue, sinuses, and abscesses of scrotum and perineum excised, requiring extensive removal of tissue, laying bare the testicles and the urethra. Extensive tortuous stricture of urethra present. External urethrotomy performed with excision of portions of scar tissue.

Examination of tissue removed: The perineum and large portion of scrotum has been excised. Several sinuses are present which lead into abscess cavities. There is a great increase of connective tissue beneath the skin and along the scrotal septum, forming a dense hard mass one and one-half inches deep. At different points in this are intercommunicating abscesses varying in size from a few mm. to 1 to 2 cm. The appearance of these is very unusual, not definite cavities containing fluid pus, but filled up with a fine network, or fibrous stroma, in the meshes of which is a yellowish-brown pus, which can be squeezed out, the whole forming a soft resistant surface, spongy in character and not easily torn asunder.

NOTE. — The cultures taken from wrist-joint showed a remarkable growth of gonococci within leucocytes after the medium was put in thermostat. A considerable amount of serous fluid of first aspiration had been poured into the ascitic-agar tube which already contained some fluid expressed from medium. In this the leucocytes evidently remained alive in thermostat long enough to take up the gonococci as they grew, and at the end of thirty-six hours great numbers of leucocytes, filled with gonococci, some having as many as four hundred, were to be seen. In this same fluid at aspiration only after a long search could two leucocytes, each containing two gonococci, be found. The process was probably analogous to that which occurs in the urethra.

Coverslips made from the pus showed many leucocytes, great numbers of cocci, mostly in pairs, with slightly flattened surfaces approximated, many of the most typical gonococcus morphology. A few are intracellular. They are all completely decolorized by Gram's stain. Numerous examinations made. Besides the diplococci, there are bacilli, similar to colon, which also decolorize by Gram. Cultures from abscess, opened with sterile knife, had been made on one agar-slant and two agar plates. No gonococcus media were inoculated (unfortunately). On all the agar there is, after twenty-four hours, an abundant growth of a bacillus which is identical with the one isolated from bladder (q. v.) and is diagnosed bacillus coli immotilis. Careful search made for colonies of cocci, but none found. The same diplococcus was found in urine aspirated from bladder. It also refused to grow on ordinary media, and decolorized by Gram. The typical morphology, the complete decolorization by Gram, and the absence of growth on ordinary media make diagnosis of gonococcus fairly positive.

3.—*Gonococcus Peritonitis*.—Obs. XV. A case of general peritonitis, in which pure cultures of the gonococcus were obtained.

In the *Johns Hopkins Hospital Bulletin* for May, 1899, Dr. Harvey W. Cushing has made a comprehensive report on the literature and clinical aspects of this case, and the reader is referred to his interesting article for a complete report. In this paper I have abstracted briefly from his review of the literature and clinical remarks, but have given my cultural findings more at length.

Acute urethritis, leucorrhœa, salpingitis. General peritonitis. Laparotomy. Gonococcus pure on coverslip and culture from peritoneal exudate.

Surg. No. 7760. M. B., female, æt. 18. Admitted May 30, 1898, complaining of pain in right side of abdomen, nausea, and vomiting. Abdominal symptoms of six days' duration, onset sudden; no history of pelvic trouble given, but afterward acknowledged frequent exposure and abundant discharge, followed immediately by menstruation, which ceased suddenly after three days, with beginnings of abdominal symptoms. The following note was made by Dr. Cushing:

"The patient is a young woman with flushed cheeks and thickly coated tongue and general symptoms of acute toxemia. Her respirations are costal in type, somewhat accelerated, thirty-four to the minute; pulse is 100, rather small, but regular and fairly good quality. Temperature is 98.6°. There is a leucocytosis of 20,000.

"*Abdomen*.—There is no distention. On the left side there is no rigidity or pulse spasm and no apparent tenderness. Tenderness on the right side is marked, but protective spasm is not a prominent fea-

ture. There is a definite point of tenderness two or three centimeters to the right of the umbilicus on a line to the anterior spine. Percussion note has about the same quality over the abdomen, with no dullness in the flanks." A vaginal examination had been made and was reported negative. The case was seen by Dr. Halsted in consultation with Dr. Thayer, and in the absence of any pelvic history a provisional diagnosis of general peritonitis of appendicular origin was made and operation advised.

Operation.—Dr. Cushing. Ether anesthesia. Exploratory laparotomy. General peritonitis. Double salpingitis. Salpingectomy. Irrigation and drainage.

Notes of Operation.—Incision over appendix. On opening peritoneal cavity whole serosa found greatly injected and quite uniformly covered with a layer of fibrin. No free fluid. No pus. Appendix congested, but in no respect differing from the appearance of the rest of bowel. Under surface of liver, spleen, stomach, and the pelvic viscera all deeply injected and more or less thickly covered with exudate. The tubes, like the appendix, were congested and covered with lymph, but the fimbriæ were free and there was no evidence that the pelvic peritonitis antedated that in upper region of the abdomen, and only on pressure could a purulent drop be brought to ostium. Both tubes removed, abdominal cavity irrigated with salt solution, and much of the fibrinous exudate removed by sponges. Small drain leading to pelvis left in abdomen. Patient made an uneventful recovery.

Bacteriological Notes.—May 30, 1898. A coverslip preparation from the purulent contents of the right tube shows many pus-cells and a considerable number of diplococci, with typical morphology of the gonococcus, and mostly intracellular. Some cells contained great numbers of cocci, one as many as twenty-five. All are completely decolorized by Gram.

Slide smear made from the peritoneal exudate is a poor preparation and stains badly, but it shows four typical gonococci all intracellular, but too few for decolorization test to be positive.

Cultures.—1. Bouillon culture from pus from peritoneal cavity shows no growth after three days in thermostat. 2. Another bouillon tube into which a mass of fibrin, which had been stripped from the under surface of the liver, was dropped shows cloudiness in the bottom of the tube after three days in the thermostat. Coverslips made from this show numerous diplococci typical in morphology of the gonococcus. Many preparations examined no other bacteria found. All decolorize completely by Gram. Transplantations on ordinary agar from this bouillon, and also from the fibrin, show no growth after many days in thermostat. 3. Hydrocele-agar slant, inoculated with a small

mass of fibrin from Douglas' pouch shows five small transparent pin-point colonies at the end of twenty-four hours. At the end of forty-eight hours these are as large as a small pinhead and semitranslucent. Slide smears show typical gonococci, decolorizing by Gram.

Transplantations on agar from colonies on hydrocele-agar show no growth after many days in thermostat.

In his paper, Dr. Cushing reports another case in which I was unable to obtain a growth of the gonococcus from the peritonitic exudate, but the two cases were identical clinically, and gonococci alone were found on coverslip. Cultures on ordinary media were negative, so that it was undoubtedly due to the same organism.

Dr. Cushing continues as follows: "The similarity of these cases is very striking. In both there was a diffuse involvement of the general peritoneal cavity occurring during the menstruation, and following a recent exposure to infection. Apparently the uterus and tubes at such a time are less liable to resist invasion, and an acute gonorrheal process may the more rapidly ascend from the cervix through the patent abdominal ostia to the serosa.

In both cases the onset of abdominal symptoms was sudden, with pain and vomiting, but without the shock and collapse seen in perforative peritonitis. In neither case was abdominal tenderness a marked feature, nor was there any distention from paralysis of the bowel, as would have been expected with such a pronounced degree of peritonitis. The character of the peritonitis in both was the same—a dry, fibrinous peritonitis. . . . There was practically no pus or serous exudate. The fibrinous pseudomembrane was not essentially of the adhesive kind, and adhesions were not a pronounced feature."

A careful review of the literature showed that while many writers had suspected the existence of a pure gonococcus peritonitis, and had reported suggestive cases, and while Wertheim had reported a case of localized pelvic peritonitis from which he had obtained a pure culture of the gonococcus, in no case of general peritonitis had a pure culture of the gonococcus been obtained; the case above described forming the first positive evidence of the power of the gonococcus to produce an acute diffuse or general peritonitis.

The recent work of Wasserman, Nicolaysen and others, which has shown that the gonococcus can produce a diffuse peritonitis in ani-

NOTE.—The growth of the gonococcus in ordinary bouillon into which a large mass of fibrin has been dropped is interesting, probably showing that a medium, much like Marmorek's human serum-bouillon, which is a good culture medium for the gonococcus, was found. The fact that this culture was taken from beneath the liver is also conclusive evidence that the gonococcus infection was not localized but general throughout the peritoneal cavity.

mals without the presence of any foreign body, is thus demonstrated to be true also in man.

As yet no case has been reported of pure gonococcus peritonitis in the male, though several cases of peritonitis caused by rupture of gonorrheal abscess of the seminal vesicles are on record, in all of which, however, a mixed infection was present when bacteriological examination was made.

4.—*Acute Gonococcus Cystitis*.^{*}—In his classical work on gonorrhea (1893) Finger says:

"With regard to the etiology of cystitis, it is a question whether it constitutes a direct blennorrhagic affection or is to be regarded as a mixed infection." Bumm maintained that it was always a mixed infection.

Du Mesnil (1891) "proved that gonococci do not decompose urea, so that alkaline . . . cystitides . . . cannot be due to this coccus."

Melchior¹¹ was probably the first (1893) to find the gonococcus in urine in a case of acute cystitis, where careful technique was observed in obtaining urine from the bladder through a catheter. He unfortunately did not obtain a culture. His case was one of subacute urethritis with stricture, which was dilated by sounds. This produced an acute exacerbation of the urethritis, and symptoms of very acute cystitis. Cystoscopic examination showed a uniform redness of the bladder. On the strength of this case Melchior was among the first to assert that the gonococcus alone could produce a cystitis.

Wertheim¹² was the first (1897) to cultivate the gonococcus from cystitis. His patient, a girl aged nine years, was suffering from acute gonorrheal vulvovaginitis, acute cystitis, and arthritis of two joints. By means of the cystoscope he excised a small portion of the mucous membrane of the posterior wall of the bladder, and from this he obtained a pure culture of the gonococcus, as also from the urine. In microscopic sections of the tissue removed, a number of gonococci were seen in the epithelium, and in the submucosa "a great many venous capillaries were filled with gonococci, although the arteries did not contain any."

The second and last case in the literature in which the gonococcus has been cultivated from the bladder, was reported by Lindholm¹³ in 1896. A girl nineteen years of age had had gonorrhea for one month when seen by Lindholm. She then presented acute urethritis and cystitis. A specimen of urine was obtained "with aseptic precau-

^{*}The remainder of this article was presented to the Medico-Chirurgical Faculty, May, 1898.

tions," and in this gonococci were demonstrated and a pure culture obtained on cyst-fluid agar. Cystoscopic examination showed an inflammation of the entire vesical mucous membrane. The cystitis was rapidly cured by boric acid irrigations and nitrate of silver instillations.

Concerning Methods of Obtaining Cultures from the Bladder.—In these cases the objection may be raised that the cultures were taken through urethras infected with gonococci. As various writers have pointed out, the catheter or cystoscope must certainly carry bacteria, present in the urethra, into the bladder, and although care may be taken to use only the last urine, or to make use of an elastic cup over the end of the catheter which is perforated after the instrument enters the bladder (as done by Melchior), nevertheless the observer is never certain that his cultures do not contain urethral organisms.

The subject of cystitis and urinary infection has attracted a great number of investigators. In his book, Roysing (1898) tabulates the bacteriological findings of twenty-one observers, amounting in all to nearly four hundred cases of cystitis, in which, with slight differences in technique, the cultures were always taken through the urethra,—a confessedly bad method.

In 1896 the writer was struck with the simplicity of suprapubic aspiration of the bladder and its freedom from danger, and since that time, in a long series of bladder cases, he has employed that method of obtaining cultures, having used it now about one hundred times without any bad result.

The technique observed has been as follows:

The pelvic region is shaved, cleaned with soap, ether, alcohol, bichloride of mercury, potassium permanganate and oxalic acid as carefully as for a laparotomy. Sterile towels are put around the seat of operation. A large aspirator, with tubes, needles, etc., is boiled. The operator's hands are sterilized thoroughly, but, nevertheless, the blunt end of the needle is covered with sterile gauze in making the puncture into the bladder. The needle, tube, and aspirator are carefully connected and the aspirated urine collected in sterile test-tubes and flasks, the tops of which have been flamed.

Using this method we have practically never had a contamination. The pain is hardly more than that of a hypodermic injection, and, strange as it may seem, most patients declare that the insertion of the needle is less disagreeable than catheterization. To catheterize a patient with acute gonorrhea simply to obtain a culture is certainly not justifiable, because it may do great harm, and the cultural technique is not so good as by aspiration.

I have had opportunity to obtain cultures by aspiration of the bladder in five cases of acute gonorrhea.

In all of them the posterior urethra was involved, and in three an acute cystitis was present, but in only one of these (I.) could a culture of the gonococcus be obtained, though in two other cases (II., IV.) in which the cultures remained sterile, gonococci were obtained in abundance in coverslip, and decolorized by Gram. In Case I. the urine contained a great deal of blood, while in Cases II. and IV. no blood was present. The recent work of Colombini¹⁴ offers an explanation for this failure in obtaining cultures:

Colombini examined gonorrheal pus in 235 cases. He found it neutral twice, but in the other cases distinctly alkaline. He also showed that the gonococcus did not develop in urine, not because it was acid, but because it contains no albumin, and that albuminous urine furnishes a good culture medium whether acid or alkaline. We have frequently noted that ascitic agar depended for its success, not on its reaction (to which we paid little attention), but to its richness in albumin. Case I., with marked hemorrhage into the bladder, furnished a splendid medium for development of the gonococcus, while in the other cases of the urine containing little albumin, did not furnish proper pabulum for the organisms, and they probably perished rapidly. A brief history of these cases is as follows:

Case I.—Obs. XI¹.—Acute posterior urethritis, marked hematuria. Acute cystitis. Aspiration of bladder for culture. Pure culture of gonococcus obtained on ascitic agar.

S. N. 7003. E. C., æt. 22, colored. Admitted October 6, 1897.

Complaint.—Frequency of urination attended with severe pain in urethra. P. H. negative. No previous attack of gonorrhea.

P. I. Six weeks ago had coitus. Nine days later gonorrhea developed, which increased rapidly in severity. At end of two weeks began to bleed from urethra, generally at urination. A little blood would appear at the beginning of urination, then clots would be voided, and, after urination, bleeding from penis would be quite free for some time. This has continued for past three weeks. The pain has been severe, and situated quite constantly in the end of penis, though occasionally at neck of bladder. Micturition is quite frequent, and "the longer urine is retained the more the pain is."

Examination.—Purulent drop can be squeezed out of meatus, which contains numerous typical intracellular gonococci. Genitalia otherwise normal, urine of deepened color, barely acid, sp. gr. 1023, no sugar, large amount of albumin. On standing, a heavy red sediment occupies three-fourths of specimen.

Microscopically.—Red blood-corpuscles and leucocytes.

The patient voids his urine frequently, suffering great pain during and after micturition. There is very severe hematuria, followed by pure blood.

October 9: Acute symptoms and hematuria continue severe. Bladder aspirated above pubes with aseptic technique. One hundred and sixty-five c.c. of urine withdrawn and collected in sterile tubes and vessels. Aspirated urine of same character as that voided.

Coverslips from aspirated urine show typical gonococci which decolorize by Gram.

Cultures on ascitic agar give an abundant growth of a diplococcus, of the typical morphology of the gonococcus, which decolorize by Gram. Cultures on ordinary media negative. Cultures from ascitic agar on ordinary media negative.

October 31. Intravesical irrigations have been used. No urethral discharge now present. Urine still contains pus and a few red blood-corpuscles. Cystitis much improved.

Case II.—Obs. XVII.—Stricture of urethra. Acute gonorrhea. Retention of urine. Aspiration of bladder. Urine acid, very purulent, gonococcus pure in great numbers on coverslip. Cultures sterile.

Surg. No. 6734. S. K., æt. 46. Huckster. Admitted July 13, 1897.

Complaint.—Retention of urine of twelve hours' duration.

P. H. Had gonorrhea frequently, and of late years stricture. P. I. Has an acute gonorrhea of three days' duration. Symptoms very acute from beginning, soon involving posterior urethra. Yesterday had trouble voiding urine, last night had complete retention, which has now lasted twelve hours. Suffering great pain.

Examination.—Meatus red, swollen, purulent discharge abundant, containing numerous cocci, intracellular, of typical morphology of the gonococcus and decolorizing by Gram.

Bladder greatly distended with urine, reaching far above symphysis.

Treatment.—On account of acute inflammatory condition of urethra no instrumentation is thought advisable. Abdomen shaved and antiseptically prepared. Bladder aspirated. Five hundred c.c. of urine removed. Urine very cloudy, acid, sp. gr. 1016. Albumin fairly abundant. No sugar. Microscopically pus-cells but no crystals. On standing, heavy gray sediment. Specimens of aspirated urine collected with aseptic technique in two sterile test-tubes. Cultures and coverslips made from these show numerous polymorphonuclear leucocytes in many of which typical gonococci are seen. Very few cocci are extracellular. On rough estimate one leucocyte in fifty contains

the organisms in numbers varying from only a few to fifty. After treatment with Gram none can be found in a slide on which they were abundant. No other bacteria to be seen.

Cultures.—Ascitic-fluid agar-slants inoculated with aspirated urine show no growth after several days. Agar-slants likewise remain sterile.

That an acute gonococcus cystitis was present in this case is, therefore, practically positive.

Case III.—Obs. XVIII.—Acute gonorrheal urethritis and cystitis. Bladder aspirated, urine very purulent, no bacteria on coverslip or culture. Numerous examinations.

I. S. Surg. No. 7480, æt. 22. Admitted February 11, 1898. Complains of gonorrhea, which began December 20, 1897. Began to have vesical tenesmus and hemorrhage after urination on January 15. This has continued. Patient now voids about every five minutes. Tenesmus marked.

Examination.—Abundant urethral discharge, gonococci numerous (Gram). Both urines cloudy, blood in second.

Treatment.—Intravesical irrigation of permanganate 1 to 10,000.

February 12. Condition about the same. Prostate enlarged, tender and nodular. From February 12 to March 1 patient came to dispensary for treatment daily and practised intravesical irrigations at home t. i. d. Hematuria continued till February 19. March 1 urine still very cloudy with pus; micturition frequent. Pain in bladder, dull, aching hypogastric pain. Bladder only holds about 100 c.c. of fluid and is very irritable. Urethral discharge continued up to February 24, gonococci being abundant. After that no discharge and no gonococci were found.

On March 1 bladder was aspirated with aseptic technique. Urine cloudy, acid, pus-cells abundant. Long search made for gonococci in sediment, but no bacteria found. Cultures taken on hydrocele-agar. Three tubes inoculated with urine and with sediment remained sterile after many days. Agar-slants were likewise sterile.

On March 3 patient suffered same dull pain on right side in region of kidney, which was very tender on pressure. This lasted four days, the pain radiating from kidney to bladder. On March 5 bladder was

NOTE.—After each aspiration, patient would be able to avoid small amounts for a time when complete retention would again supervene. He remained in hospital for six days, and during that time required aspiration of bladder five times. Gonococci were demonstrated constantly in leucocytes of aspirated urine, but no cultures obtained. From the amount of pus present it is very certain that an acute inflammation of the bladder coexisted with the urethritis, as it would have hardly been possible for pus to flow back in such quantity from the prostatic urethra.

again aspirated for culture. Urine slightly alkaline, and very cloudy, but no bacteria were found on coverslip or numerous cultures from the sediment. Agar and hydrocele-agar remained sterile.

It is interesting to note that, while the urine was only slightly alkaline, the sediment, which consisted entirely of pus-cells, was very strongly alkaline, and after several days the urine (still kept sterile) became very strongly alkaline but not ammoniacal, and contained numerous amorphous phosphates. Cultures showed that it was still sterile.

March 8. Acute symptoms of cystitis have disappeared, but urine is still very cloudy.

Patient not seen afterwards.

Case IV.—Obs. XIX.—Acute gonorrhoea. Epididymitis. Aspiration of bladder. Pus-cells few and gonococci in considerable abundance in aspirated urine. No symptoms of acute cystitis. No growth on culture.

Surg. No. 6795. J. B., æt. 19, colored. Admitted August 1, 1897.

Complaint.—Gonorrhoea of three weeks' duration. Incubation uncertain. Began with slight urethral discharge, which soon became extensive. Later dysuria and vesical tenesmus set in, and in a few days one testicle began to swell. Symptoms of posterior urethritis are now present, but moderate.

Examination.—Beginning epididymitis left side, not much enlargement as yet. Profuse yellow discharge from penis, which contains many gonococci which decolorize by Gram. Both specimens of urine cloudy.

Patient instructed to retain urine for eight hours. Bladder aspirated with aseptic technique. Aspirated urine: Dark amber, acid, slightly cloudy; after standing a small flocculent sediment deposited. Microscopic examination of sediment shows numerous leucocytes, no crystals, no casts. Stained slides show numerous diplococci of characteristic morphology of the gonococcus, mostly extracellular, decolorizing by Gram.

Cultures.—Plain agar, remain sterile. Ascitic-fluid-agar, inoculated with purulent sediment in sterile test-tubes, shows no growth after several days in thermostat.

NOTE.—Had the bladder been aspirated two weeks earlier, when gonococci were still to be found in urethra, hematuria was present, and symptoms of cystitis were more pronounced, a culture of the gonococcus might have been obtained. The occurrence of decided symptoms of pyelitis of the right kidney for four days, during which the bladder was again aspirated and no bacteria found in the urine, is very interesting. It has been suggested that pyelitis occurring with gonorrhoea is due to the toxins and not the gonococci, and this seems to have been the case here.

Case I.—Obs. XX.—Gonorrhea eight weeks. Epididymitis ten days. No symptoms of cystitis, gonococci numerous in urethra. Aspiration of bladder. Aspirated urine quite purulent, but no gonococci on culture or coverslip.

J. S., æt. 33. Admitted September 4, 1897.

Complaint.—Swollen testicle and gonorrhea.

Has had gonorrhea eight weeks. Discharge never copious. Has been treated by syringe injections. Ten days ago epididymitis began. No other posterior symptoms.

Examination.—Large right-sided epididymitis, slight mucoid discharge, but many gonococci present (Gram) often within leucocytes in great number. Three-glass test: pus in all glasses, but only one-eighth as much in third as first (after standing). No vesical tenesmus, hematuria or other symptoms of acute posterior involvement, except acute epididymitis.

Aspiration of bladder performed with aseptic technique.

Urine cloudy, forming a sediment one-half inch on standing (fully as much as in third glass, and corroborating the accuracy of three-glass test).

No gonococci or other bacteria could be found in sediment. Cultures on ascitic-agar and ordinary agar negative.

REMARKS ON CASES OF ACUTE GONOCOCCUS CYSTITIS.

The difficulty of obtaining cultures of gonococci from the urine is shown by the great rarity of the reported cases. Out of the many hundred cases of cystitis in which the infecting bacteria have been isolated by various observers in the past ten years, in only three cases has a pure culture been obtained (Wertheim's case, Lindholm's case, and Case I. here reported) and only six times diagnosed by coverslip and Gram (Melchior, Barlow 2, Bastianelli 2, and our Case II.).

We cannot believe that this small number represents the true state of affairs, for we frequently see cases of severe acute cystitis accompanying gonorrheas in which the gonococcus alone is found in the urethra.

The principal reasons for this are first, the difficulty of obtaining cultures owing to the acuteness of the inflammation, and second, because gonococci do not live in urine, unless it contains a considerable amount of albumin. The last has been set forth above as a reason for successful culture in Case I., and failure in Cases II. and III. We have seen a number of cases with such very frequent micturition that it was manifestly impossible to reach the bladder with the aspi-

rating needle, and thus have lost several opportunities to take cultures. Case IV. is very instructive, showing that the gonococcus may be present in great numbers in the bladder without inducing a cystitis. It is probable that the production of cystitis depends not only upon predisposing causes, congestion, retention, richly albuminous urine, etc., but also the virulence of the gonococcus present. For there is little doubt that the organism is very variable in its virulence.

5.—*Chronic Gonococcus Cystitis*.—The vast majority of cases of gonorrheal cystitis as seen clinically are of short duration, and in the few cases where the gonococcus has been found the observers have reported an early cessation of vesical inflammation.

Nowhere in the literature have I been able to find a suggestion that the gonococcus could produce a chronic cystitis and persist as the sole infecting organism.

The following case of very severe chronic cystitis of five years' duration in which the gonococcus was found alone in great numbers in the urine, and a pure culture obtained seems to be the first recorded instance.

Case I.—Obs. XXI.—Chronic cystitis of five years' duration following gonorrhea. Double pyonephrosis. Atony of bladder. Retention of urine. Aspiration of bladder. Gonococcus pure in great number on coverslip and culture. Urine very foul and strongly alkaline.

Surg. No. 6219. B. W., white, male, æt. 33. Admitted June 25, 1897. Complaint, dribbling of urine; pain in bladder.

F. H. Negative.

P. H. Gonorrhea first at 16 years of age (see below). Mumps four years ago. No history of lues.

P. I. When sixteen years of age had gonorrhea which lasted three months. Balanitis the only complication. Since then has had gonorrhea about a dozen times. When 22 years old was examined and told he had stricture, which was dilated. Sounds were passed after that every other day for six weeks. At the end of that time he felt well, and had no trouble for three or four years. Does not think he had cystitis following use of sounds.

About five years ago he had a fresh attack of gonorrhea. Urine became very cloudy and thick, and micturition very frequent. Epididymitis was present on right side. Bladder trouble continued bad and at end of four months he went to a physician, who irrigated the bladder with a catheter daily for a week. This improved the cystitis very much, and after that he suffered very little with the bladder until one year ago, when, after exposure to cold, his cystitis became

much worse. Since then the urine has become more and more turbid and "thick" and micturition more frequent, the urine often being voided with difficulty, but he has not required catheterization.

During past year patient has suffered attacks characterized by chills, followed by fever and sweating, and severe pain in region of the right kidney, and sometimes in the left. These attacks have occurred every week or two, and he says have generally been preceded by diminution in amount of pus in the urine. His general health has become progressively worse.

Up to two weeks ago patient has had to get up to urinate three or four times every night. Micturition slow, stream small. No hematuria.

For the past two weeks patient has been unable to hold urine, which has dribbled from him continually. He has had during this time severe pain in bladder. Is now wearing a rubber receptacle for urine. Patient declares that he has had no urethral discharge or symptoms of gonorrhea for five years, and that no catheter or other instrument has been passed since four years ago.

Physical Examination.—Patient tall, emaciated, strength weak. Looks very sick. Penis normal, no discharge present. Bladder distended, palpable far above pubes. Constant dribbling of urine. Prostate not enlarged. (Dribbling due to over-distention and bladder paresis.) Considerable muscle-spasm and dulness and tenderness in region of both kidneys, right much enlarged, left palpably enlarged, but not so much as right.

Urine, when voided, very cloudy, grayish-white color, extremely offensive. Strongly alkaline, but not ammoniacal. On standing, heavy gray sediment, consisting microscopically of mucus and pus-cells, triple-phosphate crystals abundant. Sp. gr. 1008. No sugar. Albumin abundant. No casts seen.

The bladder was aspirated for culture. Abdomen carefully prepared as for laparotomy. Instruments boiled. Specimens of urine collected in a sterile test-tube for culture, and sterile glasses for microscopic examination.

Analysis of aspirated urine: Cloudy, light-yellow color. Alkaline (but not very strongly), sp. gr. 1007. Albumin in considerable amount. No sugar. Microscopically, pus-cells. No casts. No crystals. Slide smears made from urine in sterile glass, stained by gentian violet, show numerous cocci, the majority in pairs, others single, and some in fours. The vast majority present the typical shape of the gonococcus. No other bacteria seen after careful search.

Slide smears made from purulent sediment in sterile test-tube show

numerous pus-cells, a great number of which contain cocci of the typical morphology of the gonococcus, mostly in pairs, some in tetrads. Similar cocci extracellular are numerous.

After Gram's stain all of the cocci are completely decolorized. Their colorless refractile bodies are seen both within and without cells.

Cultures were made in Marmorek's serum (one-third human serum, two-third bouillon), several loops of sediment of urine in sterile test-tubes being used in inoculation. At end of thirty-six hours in thermostat the serum was turbid and slide smears showed numerous cocci in pairs and tetrads, morphologically the same as the gonococcus. Many large clumps of them were found. After Gram's stain all are thoroughly decolorized.

Inoculations on agar and roll-gelatin from the aspirated urine show no growth after many days. Likewise no growth could be obtained on agar from the Marmorek's serum culture.

Diagnosis: *Gonococcus* of Neisser in pure culture.

The subsequent course of this case is interesting.

After aspiration, dribbling ceased for several days and patient was generally able to empty bladder, but several times required catheterization. This instrumentation caused some urethral irritation, and at the end of about a week a profuse purulent urethritis simulating in every way an acute gonorrhea was established. Slide smears from the urethral pus showed numerous intracellular cocci of the typical morphology of gonococcus, and decolorizing completely by Gram's stain. Bacilli and small cocci were also found.

This "gonorrhea" was very acute in its symptoms for a few days, but after that persisted as a slight discharge for several weeks. From time to time after the aspiration of the bladder the urine was carefully examined for bacteria. At first gonococci alone were found present and in great number, but soon bacilli and streptococci began to appear, at first in small numbers, but very soon more abundantly, and just as these secondary invaders increased so the gonococci decreased in number. On the seventeenth day, following aspiration, there were many less gonococci than other bacteria, and in ten weeks the gonococci were greatly outnumbered by bacilli and streptococci, both of which were found intracellular in great number.

Patient remained in the hospital for one month, and this secondary

NOTE.—The marked enlargement of kidney, together with history of recurring chills, fever, and sweating with severe pain in region of kidneys over period of a year, makes diagnosis of pyonephrosis or pyelitis practically certain. Organisms infecting kidney would surely be present in urine in the bladder, and the certain demonstration of a pure infection of the gonococcus in the bladder shows that the gonococcus was almost certainly the cause of the double pyonephrosis.

infection occurred despite careful technique in instrumentation and frequent vesical lavage with bichloride of mercury. Two days after first catheterization patient had severe chill and pyrexia of 103.5° , which soon subsided. Again, three weeks later, fever developed, accompanied by severe pain in bones and marked increase in palpable swelling of kidneys.

Passage of large sounds demonstrated that no stricture was present, but at the end of stay in hospital patient again developed overdistention and dribbling, for which at first periodical catheterization and then the permanent catheter was tried, but both caused so much vesical pain that suprapubic drainage was advised. This was refused, and the patient left the hospital. When seen two months later he said his condition was better, that he voided his urine five or six times daily, and had no dribbling. He had had several attacks of severe kidney pain. Had had no discharge from urethra for several weeks.

Remarks.—This case shows conclusively that Du Mesnil was wrong in asserting that the gonococcus could not cause an alkaline cystitis. The urine obtained by aspiration from the bladder was as nasty in appearance and as foul-smelling as we have ever seen. On standing, a dark, ropy sediment was formed. Although alkaline when aspirated, there were no phosphatic crystals to be seen.

Urethral instrumentation with sounds several days after admission showed the absence of any decided stricture. This fact, taken with the absence of acute inflammation of the urethra and prostate, caused some uncertainty as to the reason for the great distention of bladder and dribbling of urine. This was partly due, undoubtedly, to swelling or congestion of the vesical orifice. This was felt quite plainly in passing a soft-rubber catheter, but a decided atony of the bladder was always apparent.

There was evidently a severe inflammation present, probably involving the muscular coat of the bladder. Such chronicity and severity of the vesical infection is certainly a very unusual phenomenon for the gonococcus.

In another case of chronic cystitis we found the gonococcus present in great number in association with bacillus coli, but were unable to obtain a culture of the organism. This case, which has been described more at length under gonococcus abscesses (Obs. XIV.), was briefly as follows:

Obs. XXII.—*Chronic cystitis, following stricture and perineal abscesses.* Aspiration of bladder. Gonococcus very abundant in urine, associated with bacillus coli. No culture obtained.

Patient had gonorrhea, followed by stricture, five years ago. Later perineal abscesses formed, for which he came to hospital and was operated on (see Obs. XIV.).

On admission, urine was passed through perineal fistula, was alkaline, very purulent, and showed microscopically, leucocytes, bladder epithelium and phosphates. There was no great increase in frequency of micturition.

Bladder aspirated for culture was of light-yellow color, cloudy, moderately alkaline, sp. gr. 1016. Albumin abundant.

Stained smears of urine (in sterile tubes) showed cocci and bacilli both very numerous, but coccus more so than bacillus. Coccus mostly in pairs, of typical morphology of the gonococcus, and after Gram's stain all are completely decolorized.

Cultures.—Three agar plates: one gelatin, two of human blood-serum (solidified), one of Guanerie medium. No hydrocele-agar was at hand, and the last two media were employed to obtain a culture of the gonococcus, but unfortunately no growth was obtained.

The bacillus grew out on all media and was found to be the bacillus coli immotilis.

The morphology of the diplococcus, decolorization by Gram, and its refusal to grow on ordinary media, although very abundant, make the diagnosis of the gonococcus practically positive. It was also found in the scrotal abscesses as noted before.

The alkaline reaction of the urine in this case brings up an important point as to the effect of bacteria on the reaction of urine in cases of cystitis.

In nine cases of chronic cystitis in which I found the colon bacillus in pure culture, the urine was always distinctly acid. In four cases of alkaline cystitis in which the colon bacillus was present, there was also present the bacillus proteus, which has a marked alkalizing effect on the urine: the two organisms having apparently a neutralizing effect on each other.

In this case the gonococcus seems to have played the same rôle as the proteus.

This observation tends to confirm the view expressed before (Case I.), that the gonococcus may have an alkalizing effect on cystitic urine if present in considerable number.

6.—*Gonococcus Pyonephrosis.*—There has been much discussion in the literature as to infection of the kidney following gonorrhea.

Writing in 1893, Finger¹⁵ says: "This rare complication of acute urethritis is also the least known. The diagnosis of blenorragic pyelitis is made not infrequently, but usually improperly. . . . Murch-

ison performed autopsy on a case of suppurative pyelonephritis. Fürbringer (1890) observed several cases in which, after cystitis, chills and fever developed with polyuria, pain and tenderness in the region of one kidney. . . . The diagnosis was confirmed by finding casts of the renal pelvis. All the cases lasted only a few days and terminated spontaneously. . . . but these cases are so rare and their origin so obscure that I must confine myself to these brief remarks."

Kelly¹⁶ reports a case of pyonephrosis "due to stricture of vesical end of ureter associated with gonorrhea." A mild grade of chronic cystitis was present, and in the urine Barker found organisms which he thought were gonococci. Unfortunately, the urine was not obtained with aseptic precautions, no cultures were made, and Gram was not tried. To Mendelsohn's case¹⁷ the same objections have been raised, and clinical evidence is entirely against a gonococcus infection.

In the early case of Boekhart of pyonephrosis and death following experimental gonorrhea in a paralytic dement, it has been shown that he was not dealing with gonococcus at all.

Schmidt¹⁸ reports in 1897 a case of acute urethritis, during the fourth week of which arthritis occurred in both knees, followed in a few days by pyonephrosis, which came to operation, two litres of pus being evacuated. No mention is made of bacteriological examination. Israel's two cases were similarly unproven.

In the recent report on "gonorrheal pyelitis and pyonephrosis" by Dowd,¹⁹ and in similar articles by Stojanschoff and Rosenfeld,²⁰ the diagnosis of pyelitis during acute gonorrhea was made largely by the excess of albumin present, and the presence of tube casts and epithelium of kidney pelvis. No bacteriological examination being reported. Rosenfeld believes that the limit of albumin in cystitis is 0.15 per cent., and anything more than that surely indicates kidney involvement. Dowd thinks that "a shingle-like form of epithelium and a clumping of pus-cells are the most positive indication of pelvic inflammation."

In Berg's case of fatal gonorrheal endocarditis²¹ the pyelonephritis developed after arthritis and endocarditis. There was no evidence of cystitis, and it was probably not an ascending infection of the kidney, but a blood metastasis. The kidneys showed no changes beyond a slight congestion. Under the microscope small collections of round cells were found in the stroma, and the epithelium of the tubules was degenerated. The pelvis of the left kidney showed a few hemorrhagic spots, and contained a little turbid fluid in which a few diplococci were found, which did not stain after Gram, and were thought to be gono-

cocci. No cultures were taken. During life there was pain and tenderness over the left kidney, and the urine showed pus-cells and casts but no albumin. This absence of albumin is remarkable, as most writers are of the opinion that a high per cent. of albumin is always present in pyelitis. The pyelonephritis, however, was slight and not of the usual ascending character.

Cumston²² has recently reported an interesting case of pyonephrosis during acute gonorrhea. Two weeks after onset there were symptoms of cystitis, followed two days later by chills and fever. Urinalysis showed "bladder cells," leucocytes, red blood-corpuscles, cells of the renal pelvis, numerous casts, albumin 0.275 per cent." Temperature 38.5° C. During the next two weeks temperature oscillated between 38.5° and 39.4° C. The examination then revealed a swelling in the region of the left kidney and at the operation (five weeks after beginning of gonorrhea) about 1250 cubic centimeters of pus were evacuated. The pelvis was greatly distended, but the kidney substance not completely destroyed. Unfortunately, no bacteriological examination was made, so that the presence of the ordinary pyogenic organisms cannot be excluded.

In conclusion, it may be said after a careful review of the literature, that while numerous writers have observed cases in which pyelitis, pyelonephritis and pyonephrosis came on abruptly during acute gonorrhea, in no case has there been furnished proof in the shape of microscopic demonstration on culture and coverslip, that the gonococcus was the sole bacterial cause of the ascending infection.

Sée expressed the present status when he said, in his classical work, "*Le Gonocoque*" (1896), "Can the gonococcus go still further and cause pyelonephritis? It has not been demonstrated."

The case detailed at length above under chronic cystitis (Obs. XXI.) we believe, however, does demonstrate that the gonococcus can be the sole cause not only of severe chronic cystitis, but extensive double pyonephrosis.

A CASE OF DOUBLE PYONEPHROSIS DUE TO GONOCOCCUS.

Obs. XXII. The patient had suffered from gonorrhea five years before, and since that time with chronic cystitis, micturition very frequent and difficult. The kidney symptoms had begun one year before; had been characterized by chills, fever, severe pain in region of right

¹ Dr. Cumston in his paper gives one the impression that, Neucendorf, Fürbringer and Israel, succeeding in finding gonococci in pus kidneys. In a recent letter to the writer, however, Dr. Cumston acknowledges his error.

kidney, and sometimes in left, these attacks occurring every week or two and generally preceded by diminution in amount of pus in urine. On admission, both kidneys were markedly enlarged, the right forming a large mass which could be easily palpated far below ribs. There was considerable muscle spasm and tenderness over both. There was dribbling of urine with marked over-distention of bladder, which was aspirated for culture, and the gonococcus found present in great numbers on coverslip and culture, as the sole infecting organism (see Obs. XXI.). Had the pyonephrosis been due to other bacteria they would have been found in the aspirated urine, and there is little doubt that with such long-continued great distention of the bladder, there was dilatation of the ureters and the bladder bacteria were present in the kidney.

There is then ample ground for assuming that the pyonephrosis was due to ascending infection from the bladder, and that the gonococcus was the etiological factor.

HISTORICAL RÉSUMÉ.

Although Neisser announced his discovery of the gonococcus twenty years ago, it has only been during the last few years that evidence has been forthcoming to prove its peculiar and widespread powers of pyogenic infection. The chain of evidence is now practically complete, and is briefly as follows:

In 1879 Neisser²³ demonstrated that this coccus was the cause of gonorrhea and ophthalmia neonatorum, but it was not until 1887 that it was successfully cultivated by Bumm.²⁴ Since then it has been shown by pure cultures that the gonococcus may be the sole cause of various ascending and metastatic infections, *viz.*:

Arthritis, first demonstrated in pure culture by Lindemann, 1892.²⁵

Tendosynovitis, by Tollemer and Macaigne, 1893.²⁶

Perichondritis, by Finger, Ghon and Schlagenhauser, 1894.²⁷

Abscess, subcutaneous, by Lang and Paltanuf, 1893.²⁸

Abscess, intramuscular, by Bujavid, 1895.²⁹

Salpingitis, by Wertheim, 1892.³⁰

Circumscribed Pelvic Peritonitis, by Wertheim, 1892.³⁰

Adenitis (glands of neck), by Pettit and Pichevin, 1896.³¹

Pleurisy, by Mazza, 1894.³²

Endocarditis, by Thayer and Blumer, 1895.³³

Septicemia, by Thayer and Blumer, 1895.³³

Acute Cystitis, by Wertheim, 1895.³⁴

Chronic Cystitis, by Obs. XXI., here reported, page 259.

Pyonephrosis, by Obs. XXI. and XXII., pages 259, 262.
Diffuse Peritonitis, Obs. XV., page 249.

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- ²⁷ Finger, et al., *Arch. f. Dermat. u. Syph.*, Wien, 1894, Bd. 28, p. 330.
- ²⁸ Lang and Paltauf, *Arch. f. Dermat. u. Syph.*, Wien, 1893, Bd. 25, p. 330.
- ²⁹ Bujivid, *Arch. f. Dermat. u. Syph.*, Wien, Bd. 38.
- ³⁰ Wertheim, *Arch. f. Gynäk.*, Berl., Bd. 42, p. 1.
- ³¹ Pettit and Pichevin, *J. d. Mal. Cutan. et Syph.*, Paris, 1896, p. 419.

³³Thayer and Blumer, *Arch. d. méd. expér. et d'anat. path. path.*

³³Thayer and Blumer, *Arch. d. méd. expér. et d'anat. path., Par.*, Nov., 1895.

³⁴Wertheim, *Ztschr. f. Geburtsh. u. Gynäk.*, Stuttg., 1896 No. 35.

A REPORT OF TWO CASES OF PERSISTENT EXFOLIATION OF THE LIPS.¹

BY HENRY W. STELWAGON, M.D.,
Philadelphia.

DURING the past few years two cases of an affection of the vermillion of the lips have come to my notice, of a peculiar and persistent character. I am led to place them upon record before this association, more especially with the hope that other members have met with similar cases and may be able to throw some light upon the true nature of the disease, and add their experience as to treatment.

The first case was that of a young woman, about eighteen years old, apparently in good health, who came to me for advice and treatment, February, 1899, concerning a condition of the lips characterized by constant exfoliation. It had then existed for eighteen months. It was just as active in summer as during the cold season. As remarked, her health was good, there was no apparent digestive disturbance, no rheumatism, and she was of robust appearance. The urine, however, showed considerable deposit of urates. The condition for which she consulted me was limited to the vermillion of the lips, neither overstepping the mucous portion of the mouth nor the cutaneous integument. The lips, when free from the scale or crust formation, appeared about normal, possibly here and there somewhat pale or thin-milk color, and at times showing scattered points of superficial abrasion. Around the edges of the beginning exfoliation, just preceding the falling off of a scale, the lip was noted at times to be of a brighter tint than at other parts, although as a rule the color remained normal or somewhat paler than normal throughout. The first stage in the formation of an exfoliating film consisted of slight but scarcely perceptible thickening. In a short time, as a rule two to four or five

¹ Read at the Twenty-Fourth Annual Meeting of the American Dermatological Association at Washington, D. C., May 3, 1900.

days, the affected parts would break up into plaques, by a breaking through of the film, and the edges of the plaques, somewhat sodden in appearance, would gradually become everted, and slowly loosen and detach themselves. If pulled off or forcibly detached before the process had been entirely completed, the parts of the lips to which the scales had still been adherent would be observed to be red, slightly abraded and sometimes tender. At about the middle period of this exfoliating process, the lips, if looked at as a whole at a short distance, were noticed to be rough and covered with thin, and sometimes slightly thickened, everted scales or crusts. Occasionally, when the exfoliating films had reached the point of eversion of the edges, the process would seem to halt for a day or so, and a second underlying exfoliating film would begin to form, so that at times although not very frequently, the exfoliating crust when finally cast off would consist of two or three layers: when this took place the lips were usually somewhat reddened, puffy, and slightly tender. The exfoliative process went on unceasingly. There were now and then periods of several days when the lips would remain comparatively free, but as a rule the formation was uninterrupted. This case was under my observation for two months, the patient being irregular in her attendance. I have learned since that the disease is still persistent, the case being now under the professional care of one of my Philadelphia colleagues.

The second case was in a Jewess aged thirty, who was under the charge of Dr. F. X. Dercum for nervous exhaustion, and by whom she was kindly placed in my care for advice and treatment of the lip condition in October, 1899. The patient, while fairly robust in appearance, was profoundly neurasthenic, and was also suffering with a slight gastric catarrh. The disease of the lips had begun two or three years previously on the central part of the upper lip, and had since that time, but more especially during the past year, gradually extended, so that at the time the case first came to my notice both lips were to a great extent involved, although the central parts were most markedly affected. Both lips, especially centrally continued to go through this peculiar exfoliating process as in the former case. It was limited to the vermillion of the lips. At times, as in the former case, the exfoliating crust or scale would be seen to be made up of two or three layers. There was no underlying tenderness or thickening, except at the central part of the upper lip, and here not continuously so. Occasionally the lips remained comparatively free for a short time, but as a rule, as in the other case, the process was persistently repeating itself. The lips, when free, seemed normal, possibly less highly colored in spots,

and in the upper central part it was often perceptibly reddened. Occasionally, when the exfoliation was somewhat thicker than usual, there was slight puffiness of the entire part. At close inspection, however, I noticed in this case, when the lips were free, more especially just after exfoliation had been completed, that the outermost parts to which the disease seemed limited had the appearance of being covered with a scarcely perceptible milky-looking coating, possibly slightly moist; in fact, this milky tinge seemed to pervade the whole thickness of the mucous layer, but it was not pronounced. At times the whole membrane of a greater part of the lip would gradually detach itself and come away. These films, either small or large, were quite adherent, and until the process had almost completed itself could not be detached in their entirety. As a rule, however, the exfoliation, while taking place over the greater part of the lips at the same time, would break up into plaques, the edges of the plaques first becoming everted as referred to in the former case.

It will be seen that these two cases were essentially the one and the same disease, the second being somewhat more pronounced and more closely continuous than the first. The lips were not thickened, certainly not perceptibly so. When free from the scale or crust formation the surface had possibly a scarcely noticeable rough surface, somewhat dusky red in some places and, especially in the second case, slightly milky in parts or at certain times. The second case was much more closely and frequently inspected than the first case, so that it is possible that this pale milky appearance may have at times existed to the same extent in the latter without my having observed it. There were none of the symptoms of eczema present—no hyperemia, no exudation, no vesicular or papular formation, no fissuring or cracking of the lips, no swelling; puffiness was only noticed at the time preceding the final detachment of the exfoliating film, and then usually only when the exfoliating crust consisted of two or three layers. Moreover, the disease did not extend onto the cutaneous surface. Occasionally the conditions bore some resemblance to the scaly and dry appearance of the lips sometimes seen in continued fevers. There were no subjective symptoms, except the occasional tenderness. In the first patient the general health seemed good, although later observation indicated imperfect digestion. In the second case the neurasthenia and the slight gastric catarrh were possible influencing factors. There was slight seborrhea capitis in both cases; and in the first case on one occasion there was a transitory mild seborrhea of a part of the face. In the second case were noted, moreover, at one time two or three small areas of seborrhea of the trunk. In both cases,

however, the seborrheic condition was slight, and outside of the scalp region, transitory.

I am at a loss to place these two cases as to nosology, with any degree of satisfaction, although I am inclined to consider the disease as allied to eczema seborrhoicum. The milky appearance referred to, more particularly in the second case, reminded one very dimly of leucoplakia, but such a view had really nothing beyond this to support it. The thought, too, that it might represent an unusual type and location of lupus erythematosus occurred to me, and in looking over the literature seeking cases similar to these two, I found a case of lupus erythematosus involving the lips referred to by Hassler and exhibited before the Bordeaux Anatomical and Physiological Society,¹ and a somewhat suggestive case of disease of the lip referred to by Dubreuilh in the discussion which followed. Hassler's case was an adult male, who in addition to well marked areas of lupus erythematosus on the face, presented the disease upon the lips extending to the mucous membrane, the lips being violaceous-red in color, with thin, lamellar exfoliation. Dubreuilh's case to which he referred had been seen but once, but which, in view of the condition of the lips in Hassler's case, he was now inclined to believe was lupus erythematosus; the lips alone were involved, and were the seat of a somewhat thick covering of lamellar and friable scales, under which the skin was found red. In the few cases of lupus erythematosus involving the lips, in addition to the ordinary parts affected, which have come under my own observation, the condition of the lips was not sufficiently like the two cases just under my notice, to lead me to think that they could be properly so classed. That the process might be due to the tooth paste or powder used was thought of, but this was readily eliminated as a factor.

The gradual spread of the disease and the constant repetition of the process and its peculiar character impressed me with the possibility of it being parasitic. No examination of the crust to establish this point was made in the first case, but in the second case two bacteriological examinations were made on two different occasions in the Pathological Laboratory of the Jefferson Medical College, by Dr. W. M. L. Coplin and Dr. R. C. Rosenberger; the first time with a specimen of the crust detached by Dr. Dercum, and later with the crust and scrapings detached by me. The results of these examinations, it will be noted, are unfortunately in no way conclusive or even uniform. In the scrapings furnished by me, it is true, the white yeast fungus was found, which may possibly have an etiological bearing.

The following is the report on examination of specimen made to Dr. Dercum, which he has kindly placed at my disposal:

¹ *Journal des Maladies Cutanées et Syphilitiques*, January 1900.

Specimen consists of a number of small fragments. Infiltration was made in celloidin, sections cut, and stained by Weigert's modified fibrin stain (Gram-Weigert's method), and also by carbol fuchsin and with carmalum. The fragments were found to be composed for the most part of cellular detritus, in which can occasionally be recognized the outlines of squamous epithelial cells, in a few of which the nuclei stain but faintly. A definite cellular arrangement cannot be made out with any degree of accuracy. Wherever bunched together the nuclei are indistinct, and the cell outlines are unrecognizable. The ultimate histology of the tissue cannot possibly be made out by reason of the cellular disintegration. In sections stained for bacteria a number of organisms can be identified: (1) A coccus .8 to .9 μ in diameter, not encapsulated, lying in groups (staphylococcus), taking the usual anilin dyes and staining by Gram's method. This organism would appear to be one of the pyogenic cocci, although except by cultures the correctness of the opinion cannot be established. (2) There is a similar coccus somewhat smaller in size, staining, however, in the same manner, but appearing to be a diplococcus. Its outlines are not distinct and do not stain with the sharpness or intensity of the organism just described. (3) At least two forms of bacilli can be recognized. One of these is slender, and about the length of the tubercle bacillus; the other is considerably longer and somewhat thicker. A careful search fails to reveal the presence of any fungus properly belonging with the yeasts or molds.

In the examination made for me, the specimens consisted of inoculations in agar tubes of scrapings from the lip, including minute pieces of the beginning exfoliating epithelium. At the end of seventy-two hours growths were demonstrable. Spreads were now made and stained with gentian violet and by Gram's method. In two tubes the colonies were whitish in color, small, discrete, granular in appearance, and the edges more or less regular. Microscopic examination showed a pure culture of a coccus arranged singly, in pairs and in small bunches resembling the micrococcus pyogenes albus. The third tube contained a mixed culture. Several colonies correspond to those found in the previous tubes. The other organism grew very abundantly: the growth spread over the whole surface and was of a whitish color, and contained a few discrete colonies at the periphery. Microscopic examination of this growth showed it to consist of round and oval cells 3 to 5 μ in diameter. Biologically, tinctorially and morphologically this organism cannot be differentiated from the *saccharomyces albicans*.

As to treatment, as already inferentially intimated regarding the first patient, in the two months she was under my treatment no decided impression was made on the disease. In the second case, however,

I believe the result is otherwise; in fact, at the present time the condition seems practically in abeyance. This patient has been under my care for six months and is still under occasional inspection. The plans of treatment employed have been various. I may here remark that the many ointments which were tried from time to time, both before the patients came under my notice and while under my care, had but little influence. The several positive methods tried in the second consisted in paintings with salicylated tincture of benzoin and myrrh, paintings with silver nitrate solutions and the solid stick, paintings with tincture of iodine weakened and full strength, and combined with ichthyol. While considerable improvement from these several applications was noted, the disease was still persistent, more especially in the central part of the lips. Finally lactic acid was painted on, at first diluted and later full strength. This was repeated at six-hour intervals till two to four applications had been made, depending upon the amount of irritation produced. Four to ten days later the paintings were repeated. The reaction was never severe, although often quite positive. During the intervals an ointment containing ichthyol and acetanilid was employed. As already stated, the effect of this treatment has been so far satisfactory, the past four or five weeks the lip being almost entirely free from exfoliation. I cannot say as yet that the effect is permanent, but the outlook is favorable.

INTERNATIONAL CONGRESS.

At the meeting of the American Dermatological Association held in Washington in connection with the Congress of American Physicians and Surgeons, a committee was appointed consisting of Dr. J. Nevins Hyde of Chicago, Dr. Henry W. Stelwagon of Philadelphia, and Dr. T. Caspar Gilchrist of Baltimore, to represent the Association at the International Dermatological Congress to be held at Paris in early August, and to extend a warm invitation, in the name of the Association, to the members of that Congress to hold the next international meeting in this country—in New York. The committee was further instructed, in the event of the Congress giving a favorable response, to present the name, and urge the election of Professor James G. White of Boston, the first president of the American Dermatological Association and an honorary member of the French and Italian Dermatological Societies, for the presidency of that Congress.

Correspondence.

URETHRAL ILLUMINATION AGAIN.

EDITOR JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES:

Noticing at least three or four pages in the March number of the JOURNAL, devoted to electric illumination of the urethra, I cannot refrain from calling attention to an improvement on the Otis light, and which I have been using for about four years.

This modification was described in the January, '97, number of your journal and I am very sure that if those interested in urethral work could view the membrane as it is shown by the addition of the small prism and attached magnifying lens, they would never use any other light. Let me quote a few lines of the published description: "This (the Otis unmodified lamp) has one drawback.

"Without tilting the lamp considerably downward a clear view of the field is impossible, and, even with a moderate tilting, the rays instead of falling directly on the mucous membrane at the distal end of the tube are thrown along the tube's upper surface.

"This at times is very confusing; the bright silvery shadow being reflected upon the mucous membrane. It occurred to me, that could a compound glass be fitted to the lamp, the tube and the lamp might be placed on a parallel plane, and the field magnified as well. I gave my idea to Dr. Finerty, an oculist of the city, who has, as you can see by the cut, fitted a prism, cemented to whose anterior surface is a lens focused at six inches. The lamp and tube may be placed directly opposite each other, but when looking through the glass the tube is raised about one-half inch and the picture magnified about twice its natural size."

I have never had much experience with direct light, but I am aware of one positive fact, with the light in the tube there can be no question that there must be more or less interference with instruments necessary for urethral work.

There is, however, one means of direct illumination that rather overcomes the difficulty already mentioned, this being the Koch.

In this the doctor has the light in the urethra, but outside the tube, *i.e.*, in a separate tube. Since the communication to your journal, in 1897, I have caused the endoscopic tube to be raised higher, this being done by lengthening the arm.

With the Otis lamp, and my addition, we get direct rays, with an obstructed and magnified field. Furthermore, the attachment which can be put on by any optician, is cheap, costing but about three dollars. When specially requested, Tiemann has been attaching the prism, as, upon request, I furnished them, with information, some three years ago.

J. HENRY DOWD, M.D.

288 Franklin street, Buffalo, N. Y.

ROCHESTER, MARCH 22, 1900.

EDITOR JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES:

MY DEAR SIR:—Reading the transactions of the New York Academy of Med-

icine, section of "Genito-Urinary Surgery," December 12, 1899. I find some mis-statements that should be corrected.

Dr. Ferd. C. Valentine says, that as early as 1894 I discussed with him the advantage and disadvantage of the "Oberlander" Urethroscope; this is not so; I never conferred with Dr. Valentine in relation to this subject until December of 1898; at that time the question was discussed as to the substitution of a miniature incandescent lamp which had been made for me, with a capacity of 70 per cent. of light and 30 per cent. of heat, instead of the platinum wire used in the Oberlander, which contained but 5 per cent. of light, and 95 per cent. of heat; this lamp was practically assured, but Dr. Valentine, even at that time, repudiated the possibility of such an idea most emphatically. My experience with urethroscopes is varied, and not very pleasant; first I tried to use the Otis instrument, which, in my estimation, proved to be a failure, not necessarily on account of its construction, but because the manufacturers failed to furnish a battery which would heat the platinum sufficient to give a good, brilliant light. In consultation with Messrs. Tiemann & Co., of your city, they declared that there was no good reliable battery then made in the United States, which they were willing in any sense to guarantee. In its stead they sent to me an antiquated dip battery, for the purpose, without a rheostat, and which succeeded in heating the platinum wire only to a red glow, not giving sufficient light to penetrate at least one-half of the length of the tube. The Paine Drug Co. of Rochester also gave me the same information, and elsewhere it was the same, "There is no battery on the market which we can recommend and guarantee." The instrument became of value only when Mr. W. C. Preston of the Electro-Surgical Instrument Co. of Rochester substituted one of their lamps, of about two candle-power, and the required battery, also of their make. Then I got a good, steady, brilliant light, which penetrated the full length of the long tube. This was in the fall of 1898, so it would seem that this improvement was in my hands sooner than in those of the inventor, but even this did not interest me very much. I was still convinced that the Oberlander principle was the only correct and right one. In 1897 I imported an Oberlander outfit complete, and then I learned, to my sorrow, that Tiemann Co., and Paine Drug Co., were right; there was no good, reliable battery on the market. The apparatus worked well for six months, then tinkering began; I was soon convinced that the instrument, removed from its home, soon became worthless to its owner, except when he had an experienced electrician at his beck and call to remedy every fault. The instrument will certainly discourage and disgust every beginner in urethroscopy, although in the hands of a specialist with great technical schooling, and under the above-stated conditions, it has given the most satisfactory results. I also found out that there was a constant leakage of the electric current, buckling and short-circuiting of the plates, local action, etc., which could not be found and remedied, and which made the instrument absolutely unreliable; I, therefore, gave it up and it became an ornamental fixture in my office, so I had to fall back on the Klotz tube, with the reflected-light principle, and found that it gave the most satisfaction, which opinion is shared by no less an authority than Janet, who recommends the Gruenfeld urethroscope (Guyon's lectures, lecture No. 32, edited by Janet). Still considering Oberlander's system the best and most reasonable, I was about to use the street current for the Oberlander instrument, but luckily I was saved from this experiment and expense, as it has been found that this current is variable in smaller cities, and cannot be used with safety. In New York, where

millions of lamps burn day and night, it can possibly be used because the pressure is more uniform. During the Christmas holidays, a colleague in this city burned out a lot of the platinum wires, and at times the urethroscope would get so intensely hot that even with the circulating water-cooling apparatus working in perfect order the patient could not bear it. About this time I became acquainted with Mr. Preston, who showed me a tongue depressor, with a small incandescent lamp attached, of great brilliancy and no heat, as Mr. Preston claimed for it. Now if it was fortunate for the future urethroscopist, and all those who take interest in the urethro-endoscope, that I met Mr. Preston, it was just as good for them that Mr. Preston met me. I undertook to explain to him what a urethroscope was constructed for, and what was expected of it, and the different systems embodied in the Oberlander, Otis, and Klotz instruments. I demonstrated to him the Oberlander urethroscope as being the best for the purpose, and so it is. Oberlander explains in a few homely words his reasons for having the light as approximate as possible to the field to be illuminated. He says: "When we intend to find a small object in the dark, for instance, a needle lost on the floor, we hold the light as near as possible to the object to be found, and not at a distance." This is practically and physically correct. It is a well known and founded law that light decreases directly in proportion to the square of the distance of its transmission. I asked Mr. Preston to make the shape of the lamp to be attached to the light-carrier as flat as possible, so as to leave room for application and vision in the tube. This was, as Mr. Preston said, the solution of the whole question, because, so far, small incandescent lamps had been made only of cylindrical and bulb shapes. At the end of December Mr. Preston made the first small incandescent lamp for this purpose. I gave to him my Oberlander tube and light-carrier to have the same fitted thereto, and in January, 1899, the first patients were examined with it in my office. The first case was chronic urethritis. The mucosa urethre of this patient had had a protracted experience in all the different treatments, and consequently was indifferent to any insult; there was no complaint. The second was a stricture in the posterior part of the pars pendula, treated by dilation, and for the first time in my experience I could observe, with ease and comfort, and without haste, the pathological changes in strictured tissue. The third was a sexual neurasthenic, with a very sensitive urethra. The instrument remained in the urethra more than five minutes, enabling one to see the deep, red color of the mucosa, usually found in such cases. There was no reaction or complaint about heat. These experiments were repeated in the presence of Mr. Preston, so as to give him a chance to see the workings of the instrument for further improvement. On the same occasion the problem of eliminating the light-carrier from the tube was discussed, either by means of a false bottom or an auxiliary tube. Mr. Preston promised to make a lamp of such diminutive size that the auxiliary tube would not interfere with the usefulness of the instrument, and it does not, because it only increases the circumferential dilation about two millimeters. Lacking clinical facilities and wishing to give it a thorough, extensive trial in upwards of 100 cases, I took it to New York City and demonstrated it to Dr. Valentine, and sought further experiments in his clinics. These experiments resulted in the following: First, the "Koch" urethroscope; second, the "Valentine" urethroscope; third, the "Chetwood" urethroscope, a weakly offspring of the "Valentine." Now if there is any merit in changing an instrument which was useful only in the hands of a few, and then only under very favorable conditions, to

one which can be used by every practitioner, for study, information, diagnosis, and treatment of urethral diseases, which, next to measles, are the most frequent of all diseases, then I certainly claim it. The merit due to Mr. Preston is in having made the lamp, the first of its kind, and which is still in my possession, and as serviceable to-day as it was over one year ago, although it is now far surpassed by later improvements. Improvements and experiments are going on daily, and Mr. Preston hopes to make a lamp for the purpose of lighting up the cavities of the body, which will give the most brilliant light, with absolutely no radiant heat. This is a short synopsis of the story of the latest improvement of the urethroscopé. I say improvement, not invention, for it would be absurd to call it an invention, since the instrument was conceived years ago. Des Ormeaux, Gruenfeld, Nitze, Oberlander, did the most valuable work in this direction, but its perfection was left to American inventive genius, and American technical skill.

Yours most sincerely,

HENRY KOHL, M.D.

Society Transactions.

NEW YORK DERMATOLOGICAL SOCIETY.

286TH REGULAR MEETING, FEBRUARY 27, 1900.

JAMES C. JOHNSTON, M.D., *President*.

A Case of Pityriasis Maculata et Circinata following the Secondary Eruption of Syphilis.—Presented by DR. KLOTZ.

Mr. T., 22 years of age, became infected with syphilis about the middle of September, 1899, the initial lesion occupying the perineum and adjacent portions of prepuce and glans. He came to my office on October 20th, presenting besides the local sclerosis, which was healed over, and a very slight enlargement of the right inguinal glands, numerous flat, scaly syphilitic papules disseminated over the forehead, chest, arms, palms and scalp; some on the penis were eroded.

On November 17th, after four weeks of internal treatment with bichloride of mercury, great improvement was noticeable, induration largely reduced, inguinal glands scarcely to be felt, the papules on the scalp and forehead had entirely, those on the arms and hands nearly disappeared, papules on chest still visible, although much paler and almost free of infiltration. On the penis and glans a few papules remained eroded. It was observed that the patient is rather nervous and that the slightest emotion is followed by a distinct congestion of the skin, which renders the lesions much more prominent. On November 25th it was noticed that on several lesions the redness had almost disappeared, leaving a dark red point in the center and a border of a lighter shade of red.

December 4th, a group of vesicles, probably zoster, had appeared below the right axilla, occupying a space almost the size of a silver dollar; no decided change

on the body, but on December 13th, when the herpes had almost dried up, there was no doubt that on the upper part of the chest a new eruption had appeared in the shape of not sharply defined, hardly elevated, erythematous spots, possible size of a penny to that of a quarter, slightly scaly. Farther down on the body remnants of the original syphilitic lesions could still be noticed.

All through December and the early part of January, under the continued treatment with the bichloride of mercury, the condition of the skin changed but very slowly; the color and the outlines of the recent lesions became less and less distinct, some of the lesions obscuring the hardly more than pigmented remnants of the original syphilitic papules.

On January 24, 1900, the eruption on the trunk showed a faint brownish color, but they had all altered their shape in a distinct manner preventing gradually extending annular and gyrated outlines. At that time I made the notes in my record of the case. The annular and irregularly gyrated figures produce a peculiar picture, very little characteristic of syphilis.

On January 31st the condition was about the same, except that the outlines had farther extended, leaving slightly pigmented borders with normal skin between them; on the lower part of the body, and particularly over both hips, a new crop of erythematous patches of the same character as observed on the upper portions, had made its appearance, while the older ones had almost disappeared.

To-day you will find about the same conditions except that some new, slightly scaly, diffuse erythematous patches have appeared over the thighs as far down as the popliteal region. The patient, during the entire time, has been in excellent general health and the involution of the primary sore had been steadily going on, particularly since the removal of the remnants of the tight frenulum. Under these conditions I consider this new eruption as a pityriasis maculata and circinata occurring on a syphilitic.

DR. J. A. FORDYCE said he did not feel at all sure, from the appearance of the case at the present time, that this was the correct diagnosis. The appearance suggested a toxic eruption from the local application of mercury, but he understood that no such application had been made.

DR. GEORGE T. JACKSON said that he had seen a similar case recently at the Presbyterian Hospital. A man had come in with high fever and a large spleen, and every symptom of malarial infection. In two or three days this general pityriasis had appeared all over his body. He was inclined to think that the disease was not parasitic, but was allied to the exanthematous fevers, and was due to some internal toxic cause rather than to a local infection.

DR. C. W. ALLEN said that one or two features of the eruption made him think that it might not be a pityriasis rosea. One of these was the very long duration, with but slight change, and again the persistence of lesions on the upper part of the body where they had first appeared. In his experience, by the time the eruption had reached the hips and thighs it had almost or quite disappeared from the chest. Only that very day he had seen a girl in whom the pityriasis had begun on the trunk in a typical appearing patch. The trunk was now well, yet the limbs presented a very similar appearance to that of the case under discussion. Dr. Allen said that he had recently had a syphilitic patient who was troubled with continually recurring ringed and round-patch eruptions, which itched and burned. They had not been present prior to the syphilis. He be-

lieved it was a neurotic affection with syphilis as the basis, and thought it probable that Dr. Klotz's case would prove to be a neuro-syphilide.

DR. S. SHERWELL accepted Dr. Klotz's diagnosis. He could not believe in the parasitic origin of the disease. He had seen it three times in the same woman during lactation, the eruption being typical. He had seen it equally prominent as in the case shown, and continue for two months in a doctor who imagined it was a luetic manifestation and was perfectly free from syphilis.

DR. S. LUSTGARTEN did not look upon the case as one of syphilis, nor would he call it pityriasis as there was no desquamation practically, and its chronic development and shade of color did not speak for pityriasis. He looked upon it as a toxic erythema due to mercury. It was not necessary that the mercury should have been administered hypodermically in order to give rise to such a cutaneous manifestation. It would be interesting to know if the eruption would disappear on stopping the mercury and reappear on resuming its administration.

DR. CHARLES T. DADE looked upon the case as one of dermatitis seborrhea. He thought the case presented by Dr. Fordyce of precisely the same nature.

DR. G. H. FOX regarded the case as one of pityriasis or dermatitis seborrhoica. It seemed to him precisely like the eruption shown by Dr. Allen in connection with his remarks. The duration did not affect the diagnosis as in some instances the lesions disappear in a few weeks, while in others they last for months. He agreed with Dr. Dade that the eruption was of the same nature as in the case presented by Dr. Fordyce, and was a distinct disease having frequently the features of psoriasis, yet often resembling eczema. If the man refrained from bathing he thought the patches would soon assume a distinctly pityriasic character.

DR. JOHNSTON said that he did not think it was either syphilitic or the result of the toxic action of mercury. He did not see how pityriasis rosea could be excluded in view of the fact that Dr. Klotz had seen the case in its inception. Moreover, there was a perfectly typical lesion on the right side of the chest—the fawn-colored center and the elevated, scaling border.

DR. KLOTZ said that if it were due to mercury it would be very remarkable that it should continue to appear in one place and to disappear in another for such a considerable time. The patient had been taking corrosive sublimate internally for more than three months. In his experience, cases of pityriasis maculata had lasted at times for months. His patient has a slight seborrhea of the scalp, but neither this nor the eruption on the body had been itchy at all while under observation.

DR. E. B. BRONSON asked if any one present had seen any mercurial affection of the skin of as indolent a character as this.

DR. FOX objected to the statement that the diagnosis might be based on the fact that there is a circular lesion with a buckskin center. Such cases were what might be called the typical form, but it was not necessary to have such a lesion in order to make the diagnosis. It was like the old English view that it was necessary to have a weeping surface in order to justify a diagnosis of eczema.

DR. JOHNSTON replied that in so atypical a disease as pityriasis rosea he did not like to make the diagnosis in the absence of this typical lesion.

An Aggravated Case of Acne Varioliformis.—Presented by DR. C. W. ALLEN.

The patient was a woman, and the eruption extended over the chin and about the mouth, as well as upon the forehead and nose, giving an appearance somewhat different from that usually seen. The condition had existed for a great

many years, and had produced deep scars about the *ale nasi*. The eruption follows the margin of the hair on the forehead, but is not on the rest of the body. Dr. Allen expressed the opinion that this is the type of case formerly not infrequently mistaken for syphilis.

Dr. SHERWELL said that in such a case he would use the white precipitate ointment in fairly good strength, as it had always given him good results.

Dr. Fox said that he had been surprised to observe the beneficial effect of the white precipitate ointment, and also from the use of the iodide, or of mixed treatment internally.

Dr. FORDYCE said he had always obtained good results from the use of local antiseptics such as the mercurials, sulphur, naphthol, etc. The lesions were readily healed but the trouble tended to recur. Recurrences could, to a certain extent be prevented by the use of antiseptic washes over the scalp and face.

It had been recently shown by Sabouraud that these lesions were always the result of infection with the *staphylococcus aureus* in follicles previously invaded by the *microbacillus* of seborrhea.

Dr. ALLEN said he had been surprised to see how often, in the very earliest lesions, there would be already an atrophy or depressed scar visible.

DR. SHERWELL'S CASE OF XANTHOMA DIABETICORUM.

This patient, who was present at the last meeting, was exhibited again for the purpose of demonstrating the rapid disappearance of the lesions under anti-diabetic treatment.

Dr. JOHNSTON said that when he had seen the case three weeks ago the lesions had been marked and typical, so that the improvement had certainly been very rapid and satisfactory.

Dr. SHERWELL said that the case had been presented simply to show the results of dietetic treatment. The patient had had it for six years, and it had almost always retrograded in the summer when the function of the skin was most active. A week or ten days before being presented to the society for the first time her diet had been regulated, and this had resulted in a very marked improvement, even before her first presentation. Examination of the urine to-day had shown a larger quantity of sugar than one week ago, from which he inferred that she had been careless about her diet. Almost the only medication employed had been phosphate of sodium and small doses of arsenic.

Dr. Fox recalled having seen a gentleman with quite as extensive an eruption. After it had entirely disappeared under treatment the man suddenly developed diabetic gangrene, and died in a few days.

Dr. JOHNSTON said that in his case there had been two attacks, the second one very much worse than the first. There had been a disappearance of the eruption except on the palms, soles and *ale nasi*. The man had then gone back to his drinking habits, with a consequent return of the glycosuria. He had then developing a twitching of the facial muscles and of the tongue, and had soon died from exhaustion.

A Case of Trichophytosis of the Nails.—Presented by Dr. O. HOLDER.

Girl, 18 years old. Occupation, marked linen as it came into a public laundry. When first seen, on November 25th, only two nails were affected, thumb of right

hand and middle finger of left hand. Since then other nails have become diseased. The two little fingers and ring finger of left hand remaining free.

The trouble begins at free border of nail and works downward as a yellow discoloration. At this period the patient complains of considerable local tenderness. When first seen the microscope showed presence of large-spored ringworm fungus.

DR. FORDYCE commented upon the fact that the disease had begun on the free border of the nails.

DR. ALLEN said that he now had under treatment a case of favus of the little finger nail. The nail was heaped up in the center, and was black and undermined. The nails, in the case just presented were cleaner than he would have expected, as they are usually quite dark.

DR. DADE recalled a similar case that he had seen, and commented upon the fact that there had been no similar lesions in other parts of the body.

DR. JOHNSTON recalled four cases at least in which the diagnosis had been positively made, and yet there had been no other lesions on the body. He would recommend a trial of the saturated solution of metallic iodine in a saturated solution of potassium iodide. The nails should be kept wet as much as possible with this solution, having been previously softened by an application of potassium hydrate.

DR. ALLEN remarked that this solution is useful in other nail disease and in paronychia, having an eczematous basis.

A Case for Diagnosis (Rodent Ulcer).—Presented by DR. JAMES C. JOHNSTON.

The patient was a man having an ulcerated surface on the anterior portion of the scalp. The condition had existed for twenty-six years, and had progressed only very slightly during that time.

DR. SHERWELL thought it probable that the case was one of epithelioma.

DR. LUSTGARTEN thought it a fairly typical case of a very superficial epithelioma. Some of these cases, he said, lasted for decades, healing at the center and breaking down again.

DR. WINFIELD thought the gross appearance was that of an epithelioma.

DR. FOX said that five or six years ago he had presented to the society a case in which half of the scalp had been similarly ulcerated. It had presented a peculiar whitish appearance. Microscopical examination had proved it to be a sarcoma. In Allen Jamison's book was to be found a chromolithograph of a scalp presenting a somewhat similar ulceration.

DR. E. B. BRONSON looked upon the case as one of epithelioma, and Dr. Jackson took the same view.

DR. FORDYCE considered it to be a superficial epithelioma. He thought it was very common for such growths to extend serpigiously while they partially healed, and it was not at all uncommon for the scar tissue to break down.

DR. ALLEN said that there was nothing in the long duration which opposed the diagnosis of epithelioma. There had been at one time under his care in the City Hospital a case of epithelioma of the scalp which had not shown the typical waxy appearance until it had existed for a very long time and had extended down to the region of the eye.

A Case of Multiple Fibromata.—Presented by DR. J. M. WINFIELD.

These occurred in a male twenty-six years of age; tumors were found over

the whole body, varying in size from a small pea to an orange; the patient's mentality was of low grade, bearing out the observations made by Hebra.

DR. LUSTGARTEN said that the case was a rather typical one. He called attention to the small stature of the man, and his low intellectuality.

DR. SHERWELL said that the same features had impressed him also.

A Case of Rhinoscleroma.—Presented by DR. C. W. ALLEN.

The patient, a male, had had this condition for thirteen years. The external nose was enormously enlarged. The whole nasopharynx had become sclerosed and obstructed, so that the posterior opening was about the size of a lead pencil. Eight years ago it had been necessary to perform tracheotomy, and since that time the patient had been wearing a tube in his trachea.

DR. LUSTGARTEN said that this process had probably started within the nose. The disease began at times primarily in the larynx, and had been first described by Sturcke.

DR. JOHNSTON remarked that he had seen this case about four years ago. It seemed to him that the nose is now twice as large as it had been at that time.

DR. ALLEN said that the man had improved of late on iodide of potassium and general tonic treatment, but, of course, there was no hope of cure. The other case which he had presented to this society over ten years ago had also been under his treatment lately. The disease had extended to the whole of the lip and upper gum, and to the opposite side of the nose, and within one week it had broken down and the whole lip, fleshy septum and gum down to the bone had entirely sloughed away. The nose of the man now presented is becoming more bluish at its tip, and it is possible that the vascular supply might become so shut off by encroaching sclerosis as to cause similar sloughing.

DR. LUSTGARTEN remarked that the tendency to sloughing was not a characteristic feature. He did not recall having seen this result although he had observed quite a number of these cases in Vienna.

Case of Seborrhic Dermatitis Resembling Psoriasis.—Presented by DR. ALLEN.

The patient, a young man, had had a similar attack five years previously. The present eruption, consisting of erythematous spots and patches, covered with fatty scales, began two months previously and soon involved the entire surface of the body, including the palms and soles. It strikingly resembled psoriasis but differed in the character of the scales, the presence of intense itching. The eruption first appeared on the scalp and face and from there spread rapidly. It yielded quickly to ointment containing sulphur and salicylic acid.

A Specimen Showing Alleged Growth of Hair after Immersion in Alcohol.—Presented by DR. C. W. ALLEN.

The specimen was a small fibroma of congenital origin, which had been excised from an infant eight weeks old. It had been situated in front of the auricle of the ear. When placed in alcohol two years ago no hair had been visible on the specimen, but now there was a fine growth of lanugo hairs. In support of the possibility of such an occurrence Dr. Allen cited the fact that in a dermoid cyst, which is almost shut off from the general circulation of the body, a piece of skin sometimes grows and sheds hair.

Photomicrographs.—Presented by DR. J. C. JOHNSTON.

(1) A Hunterian chancre; (2) a specimen of tuberculosis of the skin from the case presented by Dr. Lustgarten to the American Dermatological Association as colloid milium, and (3) a specimen from the case of experimental carcinoma produced by Lack in London.

DR. FORDYCE exhibited section from Dr. Fox's case of peculiar affection in the axilla. The specimen had been prepared by Dr. Holder, and the section showed marked keratosis extending into the sweat-duct opening, dilatation of the ducts and some perivascular exudation.

DR. HOLDER exhibited the so-called protozoa bodies in zoster.

Selections.

CUTANEOUS DISEASES.

The Excretion of Urea by the Skin in Health.—C. C. EASTERBROOK (*Scottish Med and Surg. Journ.*, vol. VI., 1900, p. 120).

In order to confirm the theory that the skin, even in health, plays a more important rôle than is usually accorded to it in removing metabolic products, the author conducted a series of experiments upon himself. For nineteen days he took a fixed meat diet. During this period the amount of urea excreted varied with several circumstances. Daily exercise decreased the quantity, and non-exercise increased the amount. The variations in the urinary urea seem to coincide with the functional activity of the skin. A damp piece of linen drawn across the brow when sitting quietly, demonstrated "traces" of urea, also after muscular exercise or a hot bath a considerable quantity could be shown. The percentage of urea excretion by the skin was 1 per cent. in the morning, in the evening 0.2 per cent. These percentages are in harmony with the kidney urea excretion, which reaches its highest point between 2 and 10 P.M.

The cutaneous urea is always increased by exercise, the urinary amount being generally unaffected at the time, though increased for a day or two afterwards.

Venereal and Skin Diseases in the Philippines.—F. S. BOURNS (*Atlanta Journal-Record of Medicine*, Col. 1., No. 10, 1900).

"Venereal diseases are common in the larger towns and cities, especially the seaports. In Manila, a peculiarly virulent form of chancreoid is much more commonly seen than is the true syphilitic chancre. It is almost always followed by buboes in one or both sets of inguinal glands, many of them going on to suppuration. Skin diseases are common, particularly the so-called dholee itch. This disease, which can be easily controlled if taken early by the use of a 1 to 3 oz. formalin solution, caused a great deal of annoyance among our troops. Officers and enlisted men alike were attacked, as the infection usually comes through

the clothes. All washing is done in the streams near the city or possibly at the home of the washerwoman, with water brought from these streams. The clothes are never boiled, the prospect of infection being the best. As a guess I would say that 50 per cent. of the army had this troublesome skin disease. True itch is not uncommon. Among the Moros of the southern islands skin diseases, such as eczema and especially ichthyosis, are quite commonly found."

GENITO-URINARY DISEASES.

Spasmodic Contraction of the Oesophagus as a Symptom of Uremia.—S.

GROSLIK (*Gazita Lekaraka*, xx., 1900, p. 160).

The following interesting case is reported by the author: Man 74 years of age, called for treatment, suffering with a hypertrophied prostate and incomplete chronic retention of urine. After several visits the patient stopped the prescribed treatment, feeling greatly improved. Two months later the author's help was sought again, when he found that two weeks ago, without any warning, the patient felt trouble in swallowing even liquids. He vomited as soon as anything was swallowed. The patient, owing to his condition, could not take nourishment. A specialist on stomach diseases was called in, and after being unable to pass a sound through the esophagus, and taking into consideration the cachectic condition of the patient, he regarded the condition as due to carcinomatous growth in the lower portion of the esophagus. The author did not share this opinion, being rather inclined to view the patient's condition as due to an uremic infection, and the result of his treatment entirely corroborated his opinion.

The bladder was washed out four times daily with 1-2000 solution of nitrate of silver, the patient being nourished per rectum. After several days he could swallow not only liquids, but also soft food, and after two weeks' treatment he even swallowed solid food without any trouble. Under the influence of local measures the amount of pus in the bladder was daily diminishing, and after two months' treatment the bladder regained its strength; the patient using the catheter only once daily.

This case goes to show that during an attack of uremia the trouble in swallowing may depend not only upon changes occurring the mouth (dysphagie buccale), as usually held, but it may depend upon a spasmodic contraction of the esophagus itself, an occurrence seldom described alone, and in uremia never before.

The Bacillus Pyocyaneus in the Urinary Channels.—ROBERT BERNHARDT (Elsenberg's Clinic).

The bacillus pyocyaneus occupies at present a more important position in human pathology than it did formerly occupy. The author had an opportunity to observe a patient with hypertrophy of the prostate, chronic cystitis, pyelonephritis and epididymitis dextra, who voided cloudy urine of a decided dark-green color.

The urine after remaining some time in the vessel presented two layers, a lower, thick, sticky one of a dark-green hue, and an upper, cloudy one, of a peculiar green tinge. Apart from this, the urine had the usual characteristics of cystitis and nephritis.

After remaining seven days in the hospital, the patient died with symptoms

of heart failure, and the necropsy corroborated the clinical diagnosis. In the kidneys, bladder, prostate, and epididymis the microscope revealed bacilli, the length of which was three times as much as their thickness. They were grouped in chains or groups, and could not be stained by Gram's method. They were found not only in purulent parts, but everywhere where there was an infiltration; they were absent from the testis.

The author obtained pure cultures of bacillus pyocyaneus from the bladder, kidneys, prostate and epididymis, but on inoculating twice failed to produce supuration.

From his experiments he concludes that the purulent process was produced by other microbes, and the presence of the bacillus pyocyaneus can only be regarded as a secondary infection. In time the purulent organisms exhausting the soil, disappeared, and the bacillus pyocyaneus remained as putrid parasite.

Regarding the bladder, he is of the opinion that only an impaired bladder can be suitable soil for the growth of the bacillus; a healthy bladder removes the bacilli in a short time.

Ureteral Calculus.—HOWARD KELLY, M.D. (*Jour. Am. Med. Ass'n.*, 1900, p. 515.) Kelly reports a very interesting case in which the diagnosis was made by means of his wax-tipped bougie, and after the calculus was located, forcible dilatation was made of the ureteral orifice, which was followed by the escape of the calculus *per vias naturales*. The patient had had the attack for a week, beginning with pain in the region of the left kidney, passing down the ureter to its vesical orifice, where the pain seemed to be centered. Abdominal palpation was negative. By vaginal touch the right ureter was normal, the left very tender and a firm enlargement could be felt midway between the internal urethral orifice and the cervix uteri. This was very sensitive to the touch, and was the place where the patient referred her pain. The symptoms pointed to a renal calculus which had lodged just behind the vesical orifice of the left ureter.

The patient, after emptying the bladder was placed in the dorsal position and cocain was injected into the tender spot through the vagina by means of a hypodermic needle. The patient was then made to assume the knee-chest position on a lounge and air let into the vagina in order to drop the base of the bladder. A number 10 urethral speculum was introduced. The bladder was normal; the right ureteral orifice was normal, the left orifice was broad and pouting, the mucosa deeply reddened and everted about it, indicating this as the affected side. The orifice was, however, found to be strictured, instead of being distended as was at first supposed from the ocular appearance.

A ureteral sound passed into the orifice failed to detect the stone. A metal catheter was then passed into the ureter for 5 cm. and 8 c.c. of apparently normal urine flowed out, showing that the vesical end of the ureter was strictured and a hydro-ureter had formed. By means of a ureteral dilator 3 mm. in diameter the orifice was stretched. A wax-tipped catheter was then introduced. This is made by dipping the tip of the metal catheter into melted dental wax and olive oil (2-1) and allowing the drop collected on the end to cool. The catheter was moved to and fro in the lower part of the ureter, then it was passed up to the renal pelvis and 16 c.c. more of urine was discovered, showing that there was a slight grade of hydronephrosis. After emptying the kidney, with the catheter still in place, the patient was made to assume the upright posture while the catheter was partly withdrawn. This was done to dislodge any renal stone,

then the catheter was withdrawn. The tip of the catheter examined with a lens showed definite scratch marks, which could only be caused by a calculus in the ureter.

Further a small bit of calculus was found in the urine that had been drawn, it was tested and found to consist of uric acid. The urine withdrawn was tested for urea, the percentage of which was a trifle reduced.

The patient was then put to bed. Nineteen hours after these manipulations the patient passed a calculus which was followed by a relief from all symptoms.

The use of cocaine through the vaginal wall suggests to the author the feasibility of cutting into the ureter through the vagina and thus removing the stone and sewing up the wound, without using a general anesthetic.

The interior of the ureter may be anesthetized by injecting eucaïn into it by means of a long slender nozzle attached to a small syringe.

The wax-tipped bougie demonstrated the presence of a calculus in the ureter for the first time. He suggests that by coating the catheter with wax at intervals from the tip down we might determine more precisely the exact location of the calculus, and perhaps thus be enabled to avoid repeated introductions of the catheter in order to locate the stone.

Stricture of the lower end of the ureter was discovered by the catheter and proof of dilated ureter above, also the presence of a low grade of hydronephrosis.

Lastly dilatation of the orifice enabled the stone to escape, and this is believed by the author to be the only case in which a ureteral calculus has been assisted in this manner to escape.

Vesical Calculus: Rupture of Bladder: Suprapubic Lithotomy: Recovery.

—DR. E. F. NEVE (*Indian Lancet*, XV., No. 2, p. 54).

The patient, aged 50, had had symptoms of stone for six years. On sounding the bladder, the stone appeared fairly small. The patient was directed to empty his bladder. Four syringefuls of boracic lotion were then injected without a catheter. The resistance, which was considerable, diminished rather suddenly, while the third syringe-ful was being injected, *i. e.*, when rather less than nine ounces of fluid had been injected. As the patient was at that time under full anesthesia, it was hoped that the lessened resistance was due to cessation of voluntary expulsive effort. The stone was crushed with no difficulty. After ten minutes the evacuation catheter was passed, and although not blocked, only two or three ounces of fluid passed from the bladder. The diagnosis seemed indisputable. An incision from one inch below the umbilicus to the pubes was made. On reaching the extraperitoneal cellular tissue colorless fluid rapidly welled up into the wound. Drawing up the pouch of peritoneum the bladder was opened, the stone and its fragments (300 grs.), removed, and a drainage tube inserted. The rupture was behind the fundus. The author could not discover any special reason for it. The patient made a good recovery.

The interest and importance of this case is that a bladder should rupture under a pressure of nine ounces of fluid, for there was no residual urine.—(*Post-Graduate*.)

Cystitis Due to the Typhoid Bacillus Introduced by Catheter in a Patient Not Having Typhoid Fever.—THOMAS R. BROWN, M.D. (*Med. Rec.*, 1900, p. 405).

The literature of cystitis due to the typhoid bacillus, although very recent, has already assumed considerable proportions, as will be seen by the number of writers referred to in Dr. Brown's article. The case which he pre-

sents, however, is unique and of startling interest. The patient was operated upon in the service of Dr. H. A. Kelly for a myomatous uterus, the operation was extensive and involved necessary handling of the bladder, rendering it naturally susceptible to microbic invasion. The urine before operation was perfectly normal in every respect. The patient had had an attack of typhoid fever 35 years before, but this had never been followed by any lesion which might suggest the possibility that she might have harbored typhoid germs later. Recovery from the operation went on for several days. On the 8th day patient complained of intense bladder pain, the urine was cloudy, had a dense sediment of almost pure pus and considerable albumin. The following day there was a rise of temperature and the patient ran through a severe cystitis. Examinations of the urine bacteriologically under all the precautions for carrying out the proper technique showed the presence of a pure culture of the typhoid bacillus, corresponding to all the present known tests.

Treatment at first instituted was bladder irrigations with boric acid and sodium bicarbonate solutions. Improvement was slow, though the pus, albumin and micro-organisms diminished. Urotropin in 5 grain doses was then administered 3 times a day under which improvement seemed to be much more rapid and the case cleared in a few days. After the urine became clear no more micro-organisms could be found, the urine being perfectly sterile. The cystitis had run about 28 days.

The source of infection could not be found, though the author does not believe in the probability of the patient having harbored the germs in a latent state for so long a period, without at any time showing some kind of a lesion. Flexner has demonstrated living typhoid bacilli after 6 years from the original attack, and others have reported cases of a varying length of time.

The author thinks that possibly her former attack may have been the means of confining the infection to the bladder alone. (The possibility of a mistaken diagnosis 35 years ago is to be considered.)

This case shows the importance of thorough bacteriological investigations in cystitis and certainly the future promises us much of interest at the hands of the bacteriologists.

SYPHILIS.

Gummata and Chancre Redux.—HENRY G. ANTHONY (*Chicago Medical Record*, April, 1899).

The author brings forward several cases to illustrate the fact that injury in old syphilitics may give rise to manifestations which are syphilitic in their nature, that the correct diagnosis must be arrived at from the clinical appearance and not from the history given by patient.

In speaking of the question of chancre redux the author lays stress upon the fact that in some cases the appearance of the sore has all the clinical features of a primary sore, being in reality a gumma. He brings several striking examples to confirm this statement.

Also, cases have been reported in literature where in patients formerly syphilitic a sore accompanied or followed by enlarged glands and eruption, cannot be regarded as chancre redux but are to be looked upon as gumma.

Experimental Reproduction of the Soft Chancre in a Monkey.—CHARLES NICOLLE (*La Presse Méd.*, p. 265, 1899).

Therapeutic Notes.

Oil of Iodoform in the Treatment of Simple Urethritis in the Male.—BARRIÈN.

Twelve cases were treated by this oil, which is made up as follows:

Iodoform porphyrisat.	10.0
Ol. amygdal. dulc.	60.0
Essen. Menth. piperit.	gtt. iii

M. The injections are made twice daily. They are painless and can be used in the acute stage. Cure is effected in 14 days.

(*Monats. des Harn- und Sexual-Apparates*, Fünfter Band, 2. Heft.)

Pruritus Genitalis.

The genitals are to be washed with a hot solution of corrosive sublimate, 1-1000, and the following ointment applied:

Lanolin	30.0
Zinci oxydati, Bismuthi benzoici.	aa 10.0
Menthol	0.5℥

(*Monats. des Harn- und Sexual-Apparates*, Fünfter Band, 3. Heft.)

Contribution to the Study of Induration of the Copora Cavernosa and Nodes in the Penis.—MERLE.

Merle adds reports of seventeen cases to the thirty reported by Delaborde. Gonorrhea, traumatism and syphilis are stated to be the causes of this affection, which, the author says, may sometimes be looked upon as an evidence of atavism.

(*Monats. des Harn- und Sexual-Apparates*, Fünfter Band, 3. Heft.)

Salicylate of Soda in Gonorrhea Epididymitis.—PIGOT (*Ann. de dermat. et de Syph.* 1899, 10).

The internal administration of sodium salicylate is recommended in those cases in which there is much pain, without extensive involvement of the spermatic cord and tunica vaginalis. When the cord is involved belladonna and mercurial ointment is effective.

(*Monats. des Harn- und Sexual-Apparates*, Fünfter Band, 2. Heft.)

A. L. W.

Treatment of Syphilis by Mercurial Vapors.—ROBERT KUTNER (*Berl. kl. Wochs.*, 1900; *Gazeta Lekarska*, 1900, p. 264).

Kutner treats syphilis by vaporization of mercury in the following manner: In a closed box is put mercurial ointment, which is mixed by the patient himself, by means of a special mechanism. The mercurial vapors produced are transmitted through a specially attached mask-tube to the mouth of the patient.

The advantages of this arrangement are that the mercurial vapors do not fill the room where the patient remains, but are directly transferred to the mouth, enabling the patient to be under the influence of mercury for a certain time only, although he may remain longer in the room. The urine examined contained, after several half-hour inhalations, an amount of mercury which could be quantitatively measured. There were no symptoms of mercurialization.

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Original Communications.

GENITO-URINARY TUBERCULOSIS: ITS DIAGNOSIS IN THE LABORATORY.*

BY FREDERIC E. SONDERN, M.D.,

New York.

SINCE the discovery by Koch, eighteen years ago, that tuberculosis is invariably associated with the presence of a specific organism, the corroborative finding of tubercle bacilli in the secretions and excretions of the body has become a most important diagnostic factor. Tuberculosis in most organs is accompanied by a more or less conclusive clinical picture, but this I believe applies least of all the tuberculosis of the genito-urinary system. On this account it is extremely essential that laboratory methods, not only for the finding of tubercle bacilli in urine, but also for their differentiation from other bacilli, should be as perfect as possible.

For convenience, our subject may be subdivided as follows: First the finding of tubercle bacilli in urine if present, and the prevention of erroneous conclusions as to the exact nature of the organism found; second, corroborative evidences usually present in specimens of tuberculous urine, and the determination, as far as possible, of the probable seat of the tuberculous lesion.

The object of this communication is to call attention to a consideration of the above questions more from the laboratory standpoint than from the clinical one, but with the necessary clinical data, without which laboratory statistics are valueless.

*This essay will be published also in the Jacoby "Festschrift."

I.—THE FINDING OF TUBERCLE BACILLI IF PRESENT, AND THE PREVENTION OF ERRONEOUS CONCLUSIONS AS TO THE EXACT NATURE OF THE ORGANISM FOUND.

Every general practitioner is able to demonstrate the presence of tubercle bacilli in tuberculous sputum, and as this procedure is so universally employed the technique has become a simple matter. For this purpose a considerable variety of methods have come into use, and all standard ones seem equally efficient in the task of demonstrating the bacilli. In urine, however, this is often a more complicated affair, as the bacilli are present in much smaller numbers, and in demonstrating them great care must be exercised in their differentiation from other bacilli which may at times resemble them. Many errors in diagnosis can be ascribed to the fact that the technique for staining tubercle bacilli in urine, and their differentiation, is not sufficiently detailed in many if not most of the text-books on laboratory methods. The only organisms which may be mistaken for tubercle bacilli ordinarily met with in the microscopic examination of urinary sediments are smegma bacilli, and a more detailed consideration of this element of error is of great importance, particularly as it is the point on which so little stress is laid in most of the text-books. Such books as those by Posner,¹ Sahli,² v. Kahliden,³ Heitzmann,⁴ Purdy,⁵ Spaeth,⁶ Kosenfeld,⁷ and many others, while they detail more or less careful methods for finding tubercle bacilli in urine, do not mention the possibility of mistaking smegma bacilli for tubercle bacilli when searching for the latter. That the error is a common one can be concluded from the many cases reported in medical literature—for example, König, Bunge, Mendelsohn, and many others, where supposed tubercle bacilli found in urine led to a diagnosis not corroborated by subsequent developments, operation, or autopsy. In all the cases reported, both of urine and sputum, when the cause of error was made out, it was found that smegma bacilli had been mistaken for tubercle bacilli.

After having given careful attention to this particular line of work for quite a number of years, I certainly incline to the belief that the error in question must in the majority of instances be ascribed to inefficient methods of examination rather than to an actual inability to differentiate between the two varieties of organisms. That errors can occur even with the most painstaking care in examination cannot be denied, but usually this happens in exceptional cases only where a few isolated bacilli are found, and where for some reason the differential staining methods lead to no characteristic result. With improved technique it can be hoped that these elements of error will soon be eliminated.

Schürmeyer's statement that, when isolated bacilli only are present, no differentiation between tubercle and smegma can be made, is, I believe, too conservative.

The smegma bacilli are of no pathogenic importance, and deserve consideration only on account of being mistaken for tubercle bacilli. According to numerous published investigations, smegma bacilli are very commonly present about the genitals. Grünbaum¹² examined fifty specimens of urine from forty-seven individuals; the sediments obtained by centrifuge were spread on covers and stained with carbol-fuchsin. He found no smegma bacilli in the specimens from males, but found them in 50 per cent. of the specimens from females. He found no smegma bacilli in urine obtained by catheter from eleven individuals, including both sexes.

Bunge and Trautenroth¹³ have not only found smegma bacilli about the genitals, but also on the surface of the body, in the nose and mouth, and in other cavities lined with mucous membrane; in the deep urethra in one out of twelve specimens, and almost constantly in the anterior urethra of healthy males; between the labia in twenty-eight out of thirty healthy women, usually in the vagina, and occasionally in the urethra. Specimens of urine drawn by catheter from the bladder were all negative.

Alvarez and Tavel¹⁴ found smegma bacilli in thirty-three out of fifty primary syphilitic lesions, and in ten out of fourteen specimens of smegma obtained from healthy persons.

My personal experience with over six thousand specimens of urine stains with carbol-fuchsin allows the conclusion that more than 40 per cent. of these presented smegma bacilli. Of this number comparatively few specimens were drawn by catheter, but in a very small number of these, few isolated organisms were found which were not tubercle bacilli but resembled them very closely, and were believed to be smegma bacilli on account of their staining qualities, although both Grünbaum¹² and Miller¹⁵ deny their presence in bladder urine obtained by catheter. In 276 specimens of separately collected kidney urine, all of which were obtained by the ureter-catheter excepting a few by the *Larris* segregator, organisms believed to be smegma bacilli were observed in a few instances. These observations have led me to abandon the conclusion advocated by Miller¹⁴ and others, that urine obtained by catheter from the bladder contains no smegma bacilli, and justify the opinion that these specimens should have the same care in differential staining as those voluntarily voided.

Smegma bacilli present wide variations in size and form to which Hueppe¹⁵ and others call attention; so much so, that I believe it is but

reasonable to question if all these are really one species of organism. True, they all show the same staining qualities, but other organisms rich in fatty matter may do this; and they do vary greatly in the time required to decolorize them by the various methods. Thus it is that only certain varieties of smegma bacilli resemble tubercle bacilli in outline. While it is true that successful culture-attempts have been reported, these, however, lack anything like universal corroboration and suggest the idea that at the present time the morphological status of the organism is not yet established.

Smegma bacilli may occur in clumps or singly. When in clumps the arrangement is usually an irregular one, for example such as seen in a Widal clump reaction in typhoid cultures; but I have never found them in the characteristic grouping to which I will refer later when considering tubercle bacilli. Not only should the foregoing be considered an important differential point, but also the fact that with proper technique tubercle bacilli usually present a beaded appearance or vacuoles, a constant feature in at least some of the tubercle bacilli, and *never present* in smegma bacilli. The former feature, finding bacilli in clumps, is referred to by Bunge and Trautenroth;¹⁶ they state that smegma bacilli are often found in clumps thus resembling tubercle bacilli; as explained above, when they are found thus, the grouping is always an irregular one, never presenting the characteristic picture almost always noted when dealing with tubercle bacilli. Grünbaum¹⁷ also states that smegma bacilli show a grouping not seen with tubercle bacilli, while my experience as stated, is just the opposite, *i. e.*, tubercle bacilli usually show characteristic grouping, while smegma bacilli, if in clumps, show no typical arrangement.

Tubercle bacilli found in urinary sediments when properly stained, occur singly at times, but in the large majority of cases in smaller or larger groups. The grouping is generally characteristic—the bacilli lie side by side parallel, and end to end in a more or less regular arrangement: the whole group is usually curved, as for example the whole or a part of the letter "S." This typical arrangement is described by v. Jaksch¹⁸ and is pictured in some of the other text-books although not mentioned in the description.

Differential Staining.—It is universally conceded that all the standard methods for the differential staining of tubercle bacilli will also stain smegma bacilli; so that these usual methods are of no avail in distinguishing between at least these two varieties of organisms. The opinions of Lenhartz,¹⁹ Pappenheim,²⁰ and others, that the Gabbet method is quite unsuited as a differential stain for tubercle bacilli in

urine, are certainly correct, although the method is recommended by many.

Bunge and Trautenroth²¹ recommend that specimens be spread on covers and fixed by heat, then deprived of fatty matter by immersion in absolute alcohol for three hours; this to be followed by a 5 per cent. solution of chromic acid for fifteen minutes, then washed in water, stained with carbol-fuchsin, decolorized with a dilute sulphuric acid solution for three minutes, pure nitric acid for one to two minutes, and further decolorized and counterstained with a concentrated alcoholic solution of methylene blue for five minutes. Pepper and Stengel²² and Miller²³ doubt the efficacy of this method, which views I share after repeated trials with it. A. Pappenheim²⁴ recommends that specimens should be stained with hot carbol-fuchsin in the usual way; the excess of stain is then drained off, and the specimen decolorized and counterstained by immediately dipping it three to five times into the following solution: In 100 parts of absolute alcohol dissolve one part coralline; this solution is saturated with methylene blue (requires a large amount); then twenty parts of glycerin are added. The specimen is then washed in water and dried. Duration of manipulation three minutes. Tubercle bacilli are stained red, smegma bacilli blue. My first few attempts with this method were so discouraging that I abandoned it, but I would distinctly state that the trials were not sufficient to allow any opinion on its merits. Nor have I had any degree of success with the Grethe method as advised by Simon.²⁵ Specimens are stained with alcoholic fuchsin, washed in water, decolorized, and counterstained with a concentrated alcoholic solution of methylene blue.

Staining with carbol-fuchsin, decolorization with nitric acid and subsequently with absolute alcohol, is the method which I have found most useful though by no means free from objections. The specimens should be dried preferably on slides instead of cover glasses; and fixed with heat, but *overheating must be carefully avoided because this no doubt increases the power of resistance of smegma bacilli toward the decolorizing agents.* The slides are then stained in the usual way with carbol-fuchsin and heat for five minutes; here again overheating must be avoided for the same reason: the stain should steam slightly, but not boil. A small water-bath constructed for the purpose has been found very useful in my laboratory. The excess stain is then washed off with water and the specimen well decolorized with one to six solution of nitric acid. On microscopic examination everything except the bacilli should have lost color completely. A few of the best groups of bacilli are selected and "ringed" by a substage or nose-piece arrangement, of which there are a number in the market; so that the

same groups of bacilli can easily be found again. Then the specimen is immersed into absolute alcohol for further decolorization. While it is a well established fact that smegma bacilli are decolorized by absolute alcohol much more quickly than tubercle bacilli, the objectionable feature of the method is that no definite time for this immersion can be stated, in which the smegma bacilli will be completely decolorized, with at the same time no action on the color of tubercle bacilli. While Miller²⁶ states that the specimen should remain in the absolute alcohol for at least five minutes, I have not found this nearly long enough. Ewing²⁷ advises the use of 95 per cent. alcohol for eight to twelve hours, which is much more satisfactory. After considerable experimental work, I find that in the large majority of specimens, provided the sediment was obtained from an acid urine, an immersion in absolute alcohol from five to eight hours will completely decolorize the smegma bacilli without materially affecting the color of tubercle bacilli; in fact, the latter have frequently withstood the action of absolute alcohol for twelve hours. Smegma bacilli decolorize much more quickly in some specimens than in others. Tubercle bacilli in different specimens also vary as to their ability to withstand the decolorizing effect of absolute alcohol. Why this should be so seems difficult to explain, except that the reaction of the specimen of urine from which the sediment was obtained does exert an influence. Stained tubercle bacilli in alkaline specimens and particularly if an ammoniacal fermentation is present, possess less resistance to alcohol than those of acid specimens. Bunge²⁸ has also called attention to this point in his article.

Animal Inoculation.—Sediments of urine containing tubercle bacilli, when inoculated into guinea-pigs, lead to the development of tuberculosis and death. The autopsy usually presents typical pictures which establish the diagnosis beyond a doubt. This method *if combined with the proper precautions* is certainly a valuable one. It at times happens, however, that the animals die as the result of other toxic or bacteric infections, and if enlarged mesenteric glands only are found, a tuberculous infection must not be assumed until a microscopic examination of these glands reveals a tuberculous lesion. On several occasions I have had inoculations of doubtful tuberculous urine made and the animals died without, however, presenting typical post-mortem pictures of tuberculosis. Early in November, 1899, I received a specimen of urine for analysis, with a clinical history as follows: Young unmarried woman, nocturnal frequency of micturition for some months, no tenesmus. General health good. No tubercular family history. The urine on examination presented evidences briefly as follows: Small daily amount, faintly acid reaction, high gravity, normal daily excre-

tion of solids, evidences of some hyperemia of the renal parenchyma, nothing pointing to a lesion of the renal pelvis, and elements of some chronic cystitis, no blood. Staining revealed few isolated bacilli. Various methods to differentiate between smegma and tubercle bacilli were employed, but the outcome was at best a doubtful one, still I strongly suspected that they might be tubercle bacilli. A fresh specimen was voided into a sterile vial, immediately sedimented by centrifuge in sterile tubes, and inoculated by Dr. A. V. Moschcowitz at the Pathological Laboratory of the College of Physicians and Surgeons, New York, into two guinea-pigs, one subcutaneously, the other intraperitoneal. The former animal died on the thirteenth, the latter on the eighteenth day. Dr. Moschcowitz also had the kindness to make the post-mortem examinations, which revealed pictures alike in both animals: marked enlargement of the mesenteric glands and other lymph nodes usually considered typical of an early tuberculosis. On microscopic examination, a hyperplasia of the lymph node was found, but absolutely no evidences of a tuberculous lesion. I would add that the patient recovered from the cystitis and the secondary renal hyperemia on appropriate treatment. This case teaches conclusively the care necessary to make an inoculation test trustworthy.

Culture Methods.—The usual culture methods employed for the growth of tubercle bacilli in scientific research are not applicable for purpose of diagnosis of these bacilli in urine, because their growth is very slow and is buried under the relatively rapid growth of contaminating organisms present in every specimen of urine. Purdy²⁹ advises cultures in gelatin and subsequent inoculation, but does not detail his method of doing away with the contaminating organisms.

W. Hesse,³⁰ in the latter part of 1899, announced a new method for the rapid growth of tubercle bacilli, which promises to be an important aid in diagnosis, and I believe in their differentiation from smegma bacilli as well. The culture medium is made up as follows:

Nährstoff Heyden	5.0
Sodium chloride	5.0
Glycerine	30.0
Agar-agar	10.0
Normal solution of soda crystals 28.6:100.....	5.0
Water to 1000.0.	

This medium is used for plate cultures which after inoculation are kept in the incubator at a temperature of 37° C. According to Hesse's article, he worked chiefly with sputum and found evidences of growth of the tubercle bacilli in five to six hours, and decided colonies in from twenty-four to forty-eight hours. The contaminating organisms are

retarded in their growth. Wilson³¹ and Hiss³² have endorsed Hesse's claims to a certain extent, but do not mention any trials with urine containing tubercle bacilli. Since the early part of December, 1899, I have applied the method to almost every specimen of urine sent me for examination, which might possibly contain tubercle bacilli, or which presented tubercle bacilli or smegma bacilli on microscopic examination, and for the present have arrived at the following conclusions: As yet the culture method has never revealed tubercle bacilli in specimens in which the same were not found by some other method of examination, excluding animal inoculation. In a moderate number of specimens the rapid growth of contaminating organisms ruined the culture attempt. Numerous specimens were encountered, however, in which the usual microscopic examination revealed so few bacilli not always characteristic, while the Hesse culture-method produced pictures justifying an undoubted diagnosis of tuberculosis. All attempts, and they were numerous, to grow smegma bacilli from urine and from smegma obtained from both male and female resulted negatively. If the above conclusions are found to hold good after more extensive trial, the method will certainly be of value in the differentiation between tubercle and smegma bacilli, and will furnish a more suitable product for animal inoculation.

Additional.—Urinary sediments intended for staining for tubercle bacilli should preferably be obtained by centrifuge, because this not only permits examining the specimen as fresh as possible, but also usually results in the presence of larger numbers of organisms.

When the sediment of pus is very thick and profuse, and the bacilli found in very small numbers, it is well to employ the Biedert or the v. Sehlen method, which will result in the presence of larger numbers of bacilli, but makes differentiation of tubercle and smegma bacilli more difficult, as it disturbs the characteristic grouping and affects to a certain extent the ability on the part of tubercle bacilli to retain the stain while immersed in the absolute alcohol.

Corroborative evidences usually present in specimens of tuberculous urine, and the determination as far as possible of the probable seat of the tuberculous lesion.

Volume Voided in Twenty-four Hours.—The average volume of urine in twenty-four hours in seventy-four cases of undoubted genito-urinary tuberculosis was 1430 c.c., the largest amount 2200 c.c., the smallest 720 c.c.; the former was a tuberculous pyelo-nephritis, the latter a tuberculous lesion of the prostate and bladder. In general it may be stated that in tuberculous lesions of the kidney and its pelvis the daily excretion is increased as in like lesions due to other causes.

The frequency of micturition without tenesmus seems to be out of proportion to the polyuria, and chiefly nocturnal.

Reaction.—While Purdy³³ claims that these specimens are usually alkaline, most other authors remark that an acid reaction is the rule: over 97 per cent. of my specimens were decidedly acid.

Rovsing calls attention to the fact that when a specimen contains evidences of a marked chronic cystitis and presents an acid reaction, tubercle bacilli should be searched for. I have frequently justly suspected specimens of this kind, where the clinical history did not suggest a tuberculous process.

Amount of Albumin, Urea, Chlorides, Etc.—These correspond to the lesion in question and present nothing characteristic.

Microscopic Examination: Blood.—At least a few blood-corpuscles are almost always present. Blood-cells were found in 98 per cent. of my specimens. *Pus:* At least some pus-cells and usually smaller or larger amounts of pus were found in all the specimens even when the tuberculous lesion was but a comparatively slight one. The only specimens which contained tubercle bacilli and no pus, also presented no evidences of a genito-urinary lesion, and the bacilli were referable to a miliary tuberculosis elsewhere, or to a pulmonary tuberculous process, the bacilli having so to speak filtered through the kidney.

Casts.—Usually the severity of the lesion of the renal parenchyma is indicated to a certain extent by the casts present: in these cases, however, this is no characteristic feature, being the same as would be observed in like lesions due to other causative factors. Frequently, however, rather extensive tuberculous lesions of the kidney may be present and at the same time relatively few or no casts found, which may possibly be explained by less hyperemia of the parenchyma in tuberculous lesions than is usually found in the similar lesions due to other causes. Especially where the kidney and its pelvis present many small tuberculous nodules and there are perhaps only several small abscesses discharging into the urinary tract, casts are oftentimes absent from the urine, or there may be very few hyaline casts only present.

Bacteria.—The presence of tubercle bacilli and their demonstration in these specimens we have considered. While these specimens always show the non-pathogenic organisms usually found in urine, it is a noteworthy fact that in the large majority of instances they do not seem subject to the early development of either an acid or an alkaline fermentation. I have very frequently observed that perfectly normal specimens of urine exposed to room temperature usually undergo decomposition of one kind or another much more quickly than a tuberculous urine, while we would certainly expect the opposite to be the case, owing to

the presence of so much more organic matter. What the agent may be that is the cause of this preservation I do not know, but believe it reasonable to suppose that it is due to some toxin.

Epithelium.—The epithelial cells present may under circumstances be taken as a partial indicator of the seat of the lesion, as far as this is permissible in like lesions due to other causes.

Crystalline and Amorphous Deposits.—It very frequently happens that with the acid reaction usually present there are few uric-acid crystals in the sediment or small amounts of urate salts, but a deposit sufficiently marked to create a suspicion of stone I have very rarely found. Oxalate of lime deposits also seem very infrequent and were not found in any of my specimens. Triple phosphates and other deposits usually present in ammonical urine will of course be found when these specimens have undergone that decomposition.

RÉSUMÉ.

Urinary Sediment to be Stained for Tubercle Bacilli.—Specimen as fresh as possible.

Sediment obtained by centrifuge: if thick and purulent, prior use of Biedert or v. Sehlen method when necessary.

If not sufficient albumin, add small amount of dissolved egg albumin.

Sediment dried on microscopic slides at room temperature, under cover.

Fixed by heat, carefully avoiding overheating for reasons stated.

Stained with carbol-fuchsin and heat, again avoiding overheating.

Washed in water and thoroughly decolorized with nitric acid 1:6.

Examined with microscope and several good groups of bacilli "ringed."

Immersed in absolute alcohol for five to eight hours, which almost always decolorizes smegma bacilli and does not affect color of tubercle bacilli.

If in doubt, use Hesse culture-method.

If desired, the colonies thus obtained can be inoculated into guinea-pigs and enlarged lymph nodes present on post-mortem examination looked over for characteristic tuberculous lesions.

Miliary Tuberculosis Outside of the Genito-Urinary System and Especially Tuberculous Pulmonary Lesions.—The urine in these cases sometimes contains few isolated tubercle bacilli, which seem to have filtered through the kidneys, so to speak, occasionally accompanied with evidences of a very slight renal hyperemia; i. e., no polyuria, often-

times the specimen is somewhat concentrated, normal daily excretion of solids generally, slight traces of albumin, very few hyaline and occasionally an epithelial cast, no pus or blood. In cases of this kind with a urinary condition as above, one is oftentimes prone to assume extension of the tuberculous process to the genito-urinary system before it has really occurred. This is especially the case, as it is difficult to draw a sharp dividing line between this and the following group of cases to be considered.

Renal Miliary Tuberculosis or Tuberculous Lesions of the Kidney without Degenerative Changes in the Deposits.—These specimens frequently show the same urinary picture as detailed above, with the exception that more or less polyuria is always noted, the clinical symptom—nocturnal frequency of micturition—is almost constant, and the presence of at least few blood and pus cells, and epithelium presumably from the renal pelvis, the rule. These blood and pus cells are not numerous enough to infer a pyelitis, their presence being, I believe, referable to a hyperemia of the lining membrane of the renal pelvis. The cases met with of course occur in all grades, from the slight ones just described, to those in which a large part of the parenchyma is destroyed, and where the urinary picture becomes that seen in chronic nephritis of the contracting kidney type—polyuria, diminution in the daily excretion of solids, particularly urea, more or less albumin, a smaller or larger number of casts, with the same few blood and pus cells and epithelium referable to the renal pelvis.

Renal Tuberculosis with Degenerative Change in the Tuberculous Deposits, These Abscesses Communicating with the Renal Pelvis.—These are the specimens of urine which are most frequently received for analysis. They present the typical picture of a tuberculous pyelo-nephritis, and are the ones in which tubercle bacilli are most readily found. Owing to the associated and more or less pronounced cystitis, with at times alkaline fermentation, these specimens resemble those from like lesions due to other causes, and mistaking smegma bacilli for tubercle bacilli in the latter is the most frequent cause of an erroneous diagnosis of tuberculous pyelo-nephritis.

A typical specimen from a case of tuberculous pyelo-nephritis of this class presents the following picture: more or less polyuria, lowered specific gravity, an acid reaction, rather pale color, a not offensive odor, an amount of albumin corresponding to the degree of renal involvement in addition to what the pus, etc., would account for, possibly traces of acetone, daily amount of solids, particularly urea, depending on the degree to which the parenchyma is involved, and a more or less profuse sediment, showing no tendency to coagulation: on microscopic

examination, almost invariably a small amount of blood, more or less pus according to the degree of pyelitis and the number of tuberculous abscesses, usually few casts only, irrespective of the extent to which the parenchyma is involved, and epithelial cells referable to the renal pelvis. In addition there are elements of more or less cystitis, but usually these are insignificant as compared to the main lesion. It is only in exceptional and usually advanced cases that the evidences of chronic cystitis are decided, and an ammoniacal fermentation results. Tubercle bacilli are usually easily found, and if there is no decomposition they are without difficulty differentiated from smegma bacilli by appropriate methods. If the cystitis is not decided, it is strange how long the specimen may stand at room temperature before decomposition occurs.

A vital question remains—to what extent does the usual analysis justify an opinion as to the involvement of one or both kidneys? If the specimen presents evidences of decided tuberculous degeneration of the kidney and the daily excretion of solids, particularly urea, remains perfectly normal, it may be reasonable to infer that *possibly* the other kidney is not affected and is doing the excretory work for both. A more definite conclusion is, I believe, not prudent, and absolute information on this point must be left to the cystoscopic examination and the analysis of separately collected urines obtained by ureter-catheter, for those collected with the Harris segregator seem unreliable for this purpose, as the horns of the instrument may detach tuberculous masses from the walls of the bladder, which might be looked upon as being of renal origin.

Vesical Tuberculosis Alone, or Associated with a Tuberculous Lesion of the Prostate, Seminal Vesicles, Etc.—To judge by the specimens received, the former condition is very rare, the latter more frequent, but usually they seem to be the result of a primary renal lesion. When existing alone, the only characteristic features found in the urine are tubercle bacilli, with usually an acid reaction, the specimens otherwise resembling those found in lesions of the same organs due to other causes.

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NOTICE.

The Editor is requested to make a correction in the notice which appeared on page 273 of the June issue. The statement that Dr. James C. White is an honorary member of the French Society of Dermatology is a mistake.

ROENTGEN-RAYS IN THE TREATMENT OF SKIN DISEASES AND FOR THE REMOVAL OF HAIR.¹

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PERHAPS no more unexpected accidents ever happened than those which were announced upon the very heels of the first use of x-rays. It was as astonishing as the rays themselves that exposure without painful sensation, to what is apparently a form of light, could cause damage to tissues, which under certain circumstances might amount even to necrosis. There is no analogous clinical fact from which the occurrence of the severer forms of x-ray injuries might have been foreseen. It was a new phenomenon. There was at first no thought of caution and, as a result, reports of injuries came thick and fast during the early and enthusiastic use of the rays, so that it did not take long for all the forms of injury which are now known, to be reported. Indeed, about all of the injuries of consequence that have occurred, occurred during this early period of incautious use.

These effects of x-rays upon the skin and subcutaneous tissues were soon found to be of the following kinds: I.—Changes in the epidermis itself or in its appendages: (*a*) pigmentation; (*b*) blanching of the hair; (*c*) outfall of the hair; (*d*) trophic changes in the nails similar to those in the hair, sometimes resulting in interference with growth, and in severer cases in shedding of the nails. II.—Changes in the corium and subcutaneous tissues. These are all inflammatory in character, varying from slight erythema through all degrees of dermatitis up to necrosis.

It is not surprising, with results of this sort testifying to the influence which x-rays are capable of exerting upon the nutrition of tissues, that the possibility should suggest itself of utilizing such an agent for therapeutic purposes. The two actions of x-rays on tissues which offered the most promising prospects of utilization for therapeutic purposes were: I.—Its power of causing the falling out of the hair, and II., its power of producing inflammatory reaction and influencing the nutrition of connective tissue.

A method of removing hair conveniently and thoroughly and without pain is a desideratum in the treatment of a number of diseases. If

¹ Read before Chicago Medical Society, March, 1900.

the method could be so developed as to furnish a means of permanently removing hair it would have a most valuable field of usefulness in the treatment of cosmic defects. There is also a wide range of usefulness for an agent capable of influencing the nutrition of the connective-tissue structures of the skin, particularly if it may be so managed as to exercise some selective action upon tissues of low degree of vitality.

The problem of utilizing these properties of x-rays for therapeutic purposes has involved not only the determination of the effects of x-rays upon tissues of various sorts, healthy and diseased, but the determination of the conditions under which the desired results might be attained within the limits of safety. A number of experimenters have engaged in clearing up these questions. The results which have been attained by various workers in establishing the conditions of safety of the use of x-rays for diagnostic purposes have furnished many of the data which have been utilized in working out the problems of the use of x-rays for therapeutic purposes. Among the workers who have especially devoted their attention to the problems of the therapeutic uses of the x-rays, Schiff and Freund of Vienna deserve first mention. Among others who have contributed to this are Albers-Schönberg, Jutassy, Kümmell, Rieder, Müslman and others in Germany and Austria. Outside of Germany and Austria, where most of the investigations have been made, there should be mentioned Holland of England, and P. M. Jones of San Francisco, who as far as I know is the first American to have done any work in this line. The credit for first demonstrating the possibility of using x-rays for therapeutic purposes belongs, I believe, to Freund, who, after a consideration of the alopecias accidentally produced by x-rays, undertook in November, 1896, to remove the hair from a nevus by their use. Following Freund, Schiff a little later suggested the use of x-rays for the treatment of various diseases of the hair and for the treatment of lupus.

Treatment by exposure to x-rays has been applied chiefly in four classes of affections:

I.—In hypertrichosis, for the removal of undesirable hair.

II.—In diseases of the hair and hair follicles, such as syco-sis, tinea tonsurans, favus, where the removal of diseased hair is an essential part of treatment.

III.—In the treatment of inflammatory affections, like chronic eczema, where the purpose is to stimulate the tissues and cause absorption of inflammatory products.

IV.—In certain specific affections, like lupus, where it is desired to cause destruction or absorption of tissues of low vitality.

As already mentioned the first attempt to apply x-rays for thera-

peutic purposes was an effort by Freund to remove by this means the hair from a nævus. In the three years since this first case Schiff and Freund have applied this method of removing hair to many cases. Many of their cases have now remained free from the recurrence of hairs for more than a year. Jutassy of Buda-Pesth has also applied this method of removing hairs to a large number of cases. He has reported forty cases of successful removal of hair by this method, some of which were treated more than a year before the report was made, and had shown no regrowth of the destroyed hair. An interesting case confirmatory of the claims of Freund and Jutassy is reported by Neville Wood of London in the *Lancet* of January 27th of this year. Treatment by x-rays was undertaken in order to remove a profuse growth of down and large hairs. In Wood's case the chin, the part which had been thoroughly treated, remained eight months after cessation of treatment "quite free from down and hair." My own experience with the method is not long enough to allow any statement as to the permanency of the results in cases of this character, but it has demonstrated that by Freund's method of treatment with a very weak, but definite current, the hairs from an entire area can be successfully removed.

The removal of hair by this method is attended by no disagreeable sensations and by no accompanying symptoms beyond at times a slight erythema or pigmentation, lasting a short time. The skin, after removal of the hair, is left in the same condition as before, except for the absence of hair. There seems every reason to believe that in x-rays we have an agent of the utmost value for the removal of hair. It is painless, not nearly so tedious as electrolysis, and can be applied to the hairs of a large surface at one time. When there are only a few large hairs to be removed electrolysis will still be probably the more convenient method, but there is no comparison in convenience between the two methods for taking off a large number of hairs from any given area. For instance all of the hairs from the back of the forearm can be removed together. The method is particularly adapted to cases in which it is desired to remove down and profuse growth of hair.

The mycotic diseases of the hair and hair follicles, such as *tinea tonsurans*, *favus*, and *sycosis* are among the most intractable diseases that the dermatologist is called upon to treat. The difficulty is in getting at the peccant organisms. In practically all methods of treatment of these affections the first essential is thorough epilation. But thorough epilation is easier said than done, for, leaving out of consideration the pain and tediousness of it, the difficulty of epilation by mechanical means is that in the diseases where it is indicated the hairs become fragile, or so macerated and weak that in the attempts at

epilation they break off, leaving in the follicles the diseased bulbs and broken hair shafts, filled with the organisms almost out of reach of one's remedies. In the treatment with x-rays this difficulty seems to be overcome in an ideal way. The hairs become loose and are removable without force. It is probable too that the effects of x-rays are not limited to their depilatory properties. The clinical course of the cases is such as to indicate that the rays have a marked bactericidal effect, due either directly to the rays or to the stimulation of the tissues with the accompanying increased phagocytosis which the rays cause. In sycosis in particular the method has proven successful.

It is conceivable that this method could be applied in all conditions where epilation is needed. It has been applied with success by Gocht, in wounds of the scalp in which healing was prevented by growth of hair into the wounds. It has not, so far as I know, been applied for the removal of hairs in trichiasis or for the removal of hairs for any purpose about the eyelids.

Upon the subject of the treatment of eczema by exposure to x-rays there are a number of reports testifying to the favorable results. Albers Schönberg has reported three cases of chronic eczema healed unusually rapidly under this treatment. Hahn has reported similar cases, and Mackey two of intractable chronic eczema which showed very great improvement under this treatment. Others are to be found in the literature. The cases of eczema in which this method of treatment seems to have a field of usefulness are very intractable circumscribed patches of chronic eczema in which there is necessity for marked stimulation of the skin in order to get absorption of the inflammatory products. There seems no ground for believing that the method will have more than a very limited field of usefulness in the treatment of eczema.

When we come to the treatment of lupus vulgaris by x-rays we perhaps reach the most interesting part of the subject. Upon the use of x-rays in the treatment of lupus we have favorable accounts from many quarters. Schiff, who with justice, I believe, claims priority in the treatment of lupus by this method, has treated many cases in this way and has published a number of cures. His first case showed, one year after healing, no recurrence of lupus in the areas which had been treated, while lupus foci in the areas which had not been treated had increased. Kümmell has reported sixteen cases which he had treated by this method. Of these, two did not continue treatment long enough to give the method a trial. In one, a lupus of the finger, the lupus entirely healed, but the finger was afterwards amputated for disease of the bone, the skin being healthy. The healing of the

skin lesions in this case, while the deeper structures remained unaffected, is an interesting observation confirming the experimental observations of Rieder and others that the rays are effective against superficial tubercular lesions while they cannot be used safely in sufficient strength to affect deep-seated lesions. To continue with Kümmell's report, two patients were under treatment at the time of the report and were showing satisfactory progress. The only case in which no improvement had occurred under this treatment proved to be a case of syphilitic ulceration which healed promptly under antisyphilitic treatment. The ten remaining cases had been cured. These were cases of lupus of severe type, which had previously undergone various sorts of treatment, including in some cases treatment with tuberculin. Some of the cases have remained healed many months after cure by x-rays, and in none of them has any tendency to recurrence developed. To use Kümmell's words, in every case which he had handled "improvement had followed, and, with sufficiently long treatment, healing, which has continued until the present." This showing of Kümmell's, of ten cured, and no real failures to be charged against the method in sixteen cases, is certainly interesting. Albers-Schönberg has reported two cases cured. The first case, a man of twenty years with lupus of the face and nose, was completely cured and showed no recurrence a year afterwards. The second, a woman of forty-eight, with lupus of the face, was cured after six months' treatment. Gocht has reported one lupus cured.

Holland of England has reported three cases of tuberculosis of the skin or lupus in which he has used x-rays. The first, a tuberculous ulceration of the foot of eleven years' duration, which had resisted various forms of treatment, after two months' treatment with x-rays showed great improvement and bid fair to get well. In his second case, a lupus on the left side of the face in a boy fifteen years old, in which the usual methods of treatment had failed, treatment by this method was followed after two months by complete healing. There had been no recurrence up to the time of his report of the case. His third case, a lupus of similar character of eleven years' duration in a boy, which had proven intractable to most vigorous treatment, had shown great improvement after one month's treatment and at the time of his report seemed as if it would result in complete cure.

Phillip Mills Jones of San Francisco has reported two cases of lupus treated in this way. The first, a man of fifty-five years, with an intractable lupus on the forehead of twelve years' duration, was put on this treatment in January, 1899. In four weeks the lesions exposed were healed. One ulcerating point had been protected from the rays

for the purpose of a control observation: when the other areas had healed, this showed slight increase in size. This patch healed after three weeks of treatment. There had been no recurrence of disease up to the time of his report, January 6 of this year, though the lesions had never remained healed before for more than three months. The observation upon the healing of the exposed lesions and the persistence of the patch not exposed is similar to one made by Schiff in his first case already referred to and furnishes convincing evidence of the direct influence of x-rays upon lupus. Jones reports a second case equally as chronic and intractable in which some areas have already healed, and others now under treatment show every indication of favorable results. These cases of Jones' are, I believe, the first in this country in which x-rays have been used for the treatment of lupus, or indeed for any therapeutic purpose.

These results, coming from so many different sources, are striking enough to command attention. They justify the hope that in the proper use of x-rays we have a remedy of the greatest importance in this intractable disease. The advantages which this method seems to offer for the treatment of lupus may be briefly summarized as follows:

1. Efficacy: Practically all of the cases which have been treated by this method have been of grave, persistent character and had resisted recognized forms of treatment for years. The diagnosis in practically all of the cases is above question.

2. Freedom from pain: When one remembers the various other plans of treatment, with the never-ending repetition of painful procedures in the severe cases, such as those in which this method has been used, the fact that this method is practically painless appears as an advantage of no small consideration.

3. The character of the scars: All observers agree upon the excellent character of the scars following this method of treatment. They are soft, pliable, and thin, and nearly approach the normal skin in appearance.

The other method of treatment which this one approaches most closely and with which it must bear comparison is Finsen's treatment by the ultraviolet rays of white light. The two methods are similar in using for destruction of the lupus tissue actinic rays of high value. There are the best reasons for believing that the methods are identical in principle, one using highly actinic rays, derived from white light, the other similar or identical rays which are found among the x-rays. The results attained by the two methods are strikingly similar and are a further argument for the similarity or identity of the essential agents. The advantages which the x-ray method offers are in the way

of convenience and rapidity of results. Finsen's method of treatment is inconvenient and excessively slow. Under his method patients have daily sittings of about two hours, and in an hour it is only possible to treat an area of a little over half an inch square. The time required for the treatment of a case extends over about two years. With the method of treatment by x-rays, on the other hand, the sittings are short—only a few minutes daily—and an area of lupus involving the entire side of the face for example can be treated at one sitting. The results further are obtained in a few weeks or at most in a few months.

As to lupus erythematosus, Schiff and others have reported cases cured by this method; there are not, however, enough data available at present to form any opinion as to its value in the treatment of that disease.

The method has been tried in various other diseases, acne, psoriasis, epithelioma, but the affections which we have already discussed are those in which it offers the greatest prospects of usefulness. There is no ground for believing that in this method we have found a panacea for skin diseases.

A consideration of the effects of x-rays upon tissues does not leave us altogether in the dark as to the reason for these results. The condition of tissues affected by x-rays has been studied histologically by several observers; among others by Gilchrist and Kibbe in cases of x-ray dermatitis, and by Oudin, Barthelemy and Darier, in x-ray baldness. These observers agree that the most marked changes are found in the epithelial structures. The growth of the epidermis is influenced in a remarkable way. There is great increase in the thickness of all of the layers of the epidermis, particularly of the mucous layer, increase in the amount of keratohyaline and pigment, and evidences of greatly increased karyokinetic activity, all going to show that there is marked stimulation of the activity of cells. The studies made by Oudin, Barthelemy and Darier—in which the histologic studies were presumably made by Darier—were made upon guinea-pigs in which baldness without dermatitis had been produced; and the findings are particularly interesting. Histologically the tissues showed:

I.—Enormous thickening of the epidermis in all its layers.

II.—Atrophy of the hair follicles, which in places had entirely disappeared.

They conclude: "The thickening of the epidermis in all of its layers, the increase of keratohyaline, and the quite extraordinary atrophy of the follicles may be viewed as a reaction against an irritant of unusual strength. This irritant appears to increase the vitality of the least differentiated skin elements while the differentiated elements, hair,

nails, and glands undergo retrogressive changes and atrophy. Of the hair follicles only traces remain, one or at most three in a microscopic field, and these are no longer follicles, but only conical prolongation of epidermis which dip down seemingly only half so deep as normal follicles. Of hair papilla, or regeneration bulb every trace is lacking." Bearing these observations in mind the statement that permanent removal of hair may be caused by exposure to x-rays loses some of its startling character.

The changes in the corium are those of an ordinary inflammatory process without peculiar features—to quote Kibbe: "Capillary dilation, with collection of round cells scattered through its (the corium's) structure, particularly around the hair follicles." There is, therefore, little suggestive of the explanation of the effects of x-rays, upon diseased conditions of the connective tissue structures of the skin, in the histology of x-ray dermatitis, as far as it has been studied. An analysis of the clinical phenomena does, however, throw some light on the subject. In the first place, as regards the hair follicles, Kibbe has made the interesting observation, which I am able to confirm as regards x-ray erythemas, that in the development of an x-ray dermatitis the erythema is seen, under a hand lens, to develop first as a "punctate redness due to hyperemia around the hair follicles." In sycosis under treatment with x-rays, inflammation first shows around the hair-follicles and, I may add, if the exposures are rightly managed, the inflammation may be confined to the perifollicular tissue. In other words, the hair follicles and their connective tissue envelopes are particularly sensitive and react first to the irritation of x-rays. This is more than ever the case if the follicles are already the seat of disease. To this extent, and to this extent only, x-rays may be said to have a selective action on the hair follicles in inflammatory affections, like sycosis and tinea tonsurans.

Much the same may be said in regard to its effect in lupus. If a patch of lupus is put under the influence of x-ray exposures the lupus nodules become reddened and inflamed before, or even without the surrounding healthy tissues being affected at any time. Foci of disease so small as to be imperceptible before treatment become inflamed, redden up, and become visible. If the exposures are persisted in, the lupus nodules will break down and be destroyed before the surrounding tissue is severely affected. In other words, the specific tissue of the lupus nodules is of such low vitality that the influence of x-rays may cause its absorption or even destruction before having any considerable effect upon healthy tissue. And thus far the rays may be said to have a selective action on lupus.

The interesting question of the bactericidal effects of the rays arises in connection with these bacterial diseases which respond favorably to x-ray exposures. Unfortunately, the knowledge upon this subject is not sufficient to allow positive statement at present. Reports of different observers upon the effects of x-rays on various bacteria do not agree. On the retarding or destructive influence of x-rays on tubercle bacilli there is weighty influence. (Lortet and Geroud, Fiorenti and Luraschi, Ravillet, Mühsam, Rieder.) There is also considerable evidence to show the retarding or destructive influence of x-rays on other bacteria. But, on the whole, the reports on this subject are conflicting and do not allow of satisfactory conclusions. It is possible that the explanation of the favorable influence of x-rays on bacterial diseases lies not in the direct destructive influence of the rays on the bacteria, but in the stimulation of the tissues it causes, placing the cells in a condition in which they are better able to cope with the organisms. As an explanation of the favorable influence which the rays have on inflammatory infiltrations as well as on new growths, Kaposi suggests that "the cellular elements are altered in their structure and are thus made ready for absorption."

What is the essential factor in x-rays that produces the effects on tissues? It would take us too far from our present topic to undertake here a thorough consideration of this subject. I believe the best opinion has come around to the view that it is something in the rays themselves and not some incident of their production, as has been suggested, like ozone or brush discharges or induced electrical currents in the tissues or particles of platinum carried off from the anticathode. As Professor Elihu Thomson expresses it in discussing some experiments on this point: "There is only the supposition left that the effect was produced by Röntgen rays or something that comes with the rays." The lesser degrees of x-ray burns resemble sunburns more closely than any other pathological process, and there seems to be no good reason for not believing that the effects of x-rays on the tissues are due to the actinic rays of the x-rays just as sunburn is due to the actinic rays of sunlight. That certain of the x-rays are strikingly similar in their actinic properties to the rays of light at the violet end of the spectrum is shown by their similar effect on photographic plates. And it is no violence to the reason to suppose that the same actinic properties of the x-rays that cause rearrangement of molecules and the formation of new salts on photographic plates can exercise a similar power on the molecular arrangement of tissue cells and influence their metabolism. The x-rays in their actinic properties are in many respects strikingly similar to the ultraviolet rays of white light. If they are not identical,

they at least bear important properties in common, in the effects which they have on chemical compounds and on tissues.

The practical problem which has to be solved in applying x-rays to the treatment of skin diseases is to so manage the rays as to attain effects sufficient for therapeutic purposes, without over-stepping the limits of safety and producing undesirable results. This problem is easier now than it would have appeared three years ago. Space forbids, and it is not necessary, to go into full consideration here of the factors in the production of x-rays which influence the effects on tissues. As is well known, these factors have chiefly to do with the amperage and voltage of the primary current, the capacity of the coil, the "hardness" of the tube, the rapidity of interruption of the current, the distance from the tube to the exposed surface, and the length of exposure. For the treatment of skin diseases Schiff and Freund have worked these factors out carefully. The conditions to be avoided are, using Freund's words as nearly as possible:

(a) Too great strength of primary current: One never uses a current of more than one and one-half amperes and twelve volts' strength. This is, of course, a current much weaker than the currents used for skiagraphy. The currents of high amperage which are used in skiagraphy are not used in work of this sort at all.

(b) Too great tension of secondary current: One never uses an inductor of more than thirty cm. spark length.

(c) Too long and too frequent exposures.

(d) Not sufficient distance between skin and tube.

At the beginning the sittings are not longer than five minutes and the distance of the tube not less than fifteen cm.

Freund recommends, for the attainment of the best results, the use of a mechanical interrupter run at the rate of eight hundred to one thousand interruptions per minute.

The apparatus required in order to thus accurately apply the method is as follows:

Inductor of thirty cm. spark length, capable of being worked with a current of twelve volts and one and one-half amperes.

Storage battery for the primary current.

Amperemeter and voltmeter for the primary current, and of course suitable rheostats and switches.

Mechanical interrupter with tachometer for measuring the number of interruptions.

Suitable lead masks for protecting surfaces which are contiguous to the areas to be treated.

Under the conditions of treatment laid down above and with ap-

paratus of this sort, Freund assured me that in the treatment of a large number of cases he had never had any undesirable results; never any injury amounting to more than a slight dermatitis.

Another factor—probably the most important one—which has to be taken into consideration is on the side of the patient, *viz.*, personal idiosyncrasy. It is probable that in all the severer x-ray injuries the most important factor has been idiosyncrasy. This factor may be excluded, as suggested by Freund, by making three exposures and leaving off further treatment for three weeks, to see if any effects result. If they occur from so slight exposure the case is not suitable for this treatment.

The evidences that the exposures have been carried far enough are:

I. The appearance of erythema or pigmentation.

II. Blanching of the hair.

III. Loosening of the hair.

In the treatment of hypertrichosis the method is pursued with great caution to avoid irritation. In the treatment of inflammatory affections less care is taken. It is aimed to produce a slight degree of inflammatory reaction, and to so regulate the exposure as to hold irritation at this stage.

It is not found necessary in the treatment of any of the diseases to carry the irritation to a painful degree.

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THE PREVALENCE OF PARASITIC DISEASES OF THE SKIN, AND MEASURES NECESSARY TO LIMIT THEIR SPREAD.

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DEFINITION.—The term parasitic as applied to diseases of the skin has for many years enjoyed a distinct individuality. When Gruby and Malmsten demonstrated the presence and adduced the etiological influence of micro-organisms in ringworm, they established a new departure in pathology. The subsequent discovery of the parasitic nature of tinea versicolor by Echstet (1846) which was named *microsporon furfur* by Robin (1853), and the discovery of the *achorion* in favus by Schönlein (1849), furnished a distinct cutaneous group—the vegetable parasitic dermatoses. This, with the cutaneous disturbances caused by the animal parasites, forms the most distinctive class in the nomenclature of diseases of the skin. With the development of bacteriology many other diseases of the skin are now known to be due to micro-organisms which both bacteriologists and botanists place in the vegetable kingdom. Whether there exists a sharp line of demarkation between the hyphomycetes, sometimes very appropriately called *fungi imperfecti*, and the bacteria or schizomycetes (*fission fungi*) some difference of opinion seems to exist. Clinically

the distinction is difficult to draw between some diseases due to fungi and dermatoses due to the bacteria. It is true the latter are not limited to the skin, which may be involved only secondarily or even to a very limited extent. This clinical distinction seems untenable, however, when we consider that favus has been found post-mortem by Kaposi and others on the mucous membranes of the esophagus, stomach, and intestines. In ringworm the disease may also extend to the mucous surface of the lips¹ and mouth.² A third variety comprising the budding forms of the yeast fungus, the blastomyces, and the ray-fungus or actinomyces, giving rise to a severe inflammation of the skin and sometimes of the viscera, must now be added to the group of cutaneous affections due to the mycoses.

It seems highly probable, therefore, that the nomenclature of the future will include among the vegetable parasitic diseases of the skin other affections than those caused by the hyphomycetes, which, following the nomenclature of the Royal College of Physicians of London, are generally known by the generic prefix *tineæ*.

Frequency.—The frequency of diseases of the skin due to animal and vegetable parasites as reported by this Association, show that next to eczema, epizoid dermatoses are the most prevalent of all skin affections in this country, being met with 95 times in 1000 cases of skin disease, or 9.529 per cent. Of this number the animal and vegetable kingdoms are about equally represented, being 4.922 per cent. of the former, and 4.607 per cent. of the latter. Of the *tineæ*, favus furnishes only 0.343 per cent. and *tinea versicolor* 1.026 per cent. Favus in this country is almost wholly an imported disease, and in the writer's experience is met with mainly among Poles and Hungarians. It has also been imported from Scotland, and in one instance from France. While *tinea versicolor* derives its importance chiefly from its liability to be mistaken for more serious affections by the family medical attendant. Of far greater importance, therefore, is the ringworm family.

The frequency as well as the severity of ringworm differs in different countries. In lowlands, within the tropics, ringworm thrives and assumes a more virulent character than in high altitudes or in the temperate zone. In 1894 the present writer had occasion to note the frequency as well as the difference in severity between cases seen in the City of Mexico with an altitude of 7524 feet, and those seen in Vera Cruz on the coast. In the far north it is more seldom encountered. A striking difference exists in the frequency of ringworm in Edinburgh and London. In the former McCall Anderson gives a statistical

¹ A. R. Robinson. Quoted in *Brit. Jour. of Derm.*, Feb., 1896. p. 59.

² Alessandro, Giletti, Torino, 1895. (Monograph.)

frequency of but 7 to 1000: while in London Crocker met with *trichophyton tonsurans* 100 times in 1000 cases of skin disease. Conversely, the animal parasites, particularly scabies, seem to thrive and produce greater cutaneous changes in northern countries. Statistics are not at hand to substantiate this, but the clinical type which has been considered sufficiently distinctive to warrant the term *Scabies Norvegica* conveys even a stronger expression than would be possible from numbers. As seen by the writer both scabies and pediculosis have been more frequently encountered during the winter months. This may be due to the protection afforded the parasite by thick clothing, to the less frequent changing of undergarments, and to the comparative absence of bathing during cold weather. Ringworm, as observed by the writer, is mainly limited to children and adult males. The scalp is the part most frequently attacked in the former, while in men it has been most frequently encountered on the chin and sides of the bearded face, and crural region. It has seldom been observed after middle life. Scabies has been met with in all ages and social conditions. It is especially common in young men and has been seen but rarely in old age. Pediculosis capitis has been most commonly encountered in children and women: pediculosis pubis in young men, and pediculosis vestimentorum is almost wholly limited to the uncleanly, and as seen in public clinics is one of the tortures of old age.

Are parasitic diseases of the skin diminishing in frequency? Again referring to the statistics of this Association, we find during the year ending July 1, 1882, the parasitic dermatoses gave 9.44 per cent., of which the animal epizoa furnished 5.21 per cent., and the vegetable fungi 4.23 per cent. While in 1897 the animal parasitic diseases furnished 4.922 per cent. and the mycoses 4.607 per cent., giving a total of 9.529 per cent. If these returns are to be relied upon they show a slight increase in the number of vegetable parasitic affections and a decrease in the prevalence of the animal parasitic diseases of the skin during an interval of fifteen years. In studying the combined returns during a period of twenty years, 1877 to 1897, we find that while diseases due to animal parasites have considerably decreased, there is a slight increase in the number of diseases of the skin due to the vegetable fungi. While we may not be able to offer individually any special order of procedure, yet collectively, a free expression of opinion by this body would be of great value in solving the vexed problem of limiting the spread of ringworm.

Sources of Infection.—From careful inquiry during a period of many years, the writer is of opinion that the principal sources of infection are: First, asylums and similar institutions where children

are often accepted and congregated without due regard to their contagious condition; second, kindergartens and schools; third, the poor or slum districts of cities, where children are crowded together in uncleanly tenement houses; fourth, and finally, domestic animals, especially horses, cows, dogs, and possibly poultry.

Asylums.—Few asylums are free from pathogenic fungi. In fact, in most institutions of this kind the vegetable parasitic dermatoses are endemic. Efforts are usually made from time to time to eradicate the affection, although the frequent arrival of fresh supplies of contagion renders it wellnigh impossible to eradicate the disease. At the Cleveland Protestant Orphan Asylum, children affected with ringworm were isolated for more than a year, and while the results were favorable and the disease wellnigh stamped out, yet the relaxation of rigid rules has since allowed sporadic cases to appear from time to time.

Kindergartens.—The establishment of numerous kindergartens for children whose mothers are employed away from home during the day, is probably next to asylums the most potent factor in the spread of the parasitic dermatoses. In frequency these have appeared in the following order: *Tinea tonsurans* or ringworm of the scalp, *tinea circinata* or ringworm of hairless surfaces, scabies and pediculosis. In many kindergartens an effort is made to exclude such cases, but they are seldom recognized until several are infected, or the disease appears in a severe form.

Schools.—In the public schools of Cleveland an endeavor is made to exclude all cases of contagious or infectious diseases, including the vegetable and animal parasitic dermatoses. No medical supervision exists, however, and the diagnosis falls on teachers who are naturally not accurate diagnosticians, and as a consequence many highly infectious diseases are admitted, while others not infectious are sometimes excluded. The intent, however, is good and in the right direction. In the private schools even less rigid supervision obtains, and not infrequently cases of ringworm present themselves, having extensive semi-bald patches, without any effort being made, so far as I understand, to prevent their attending school. Instances of this kind have occurred most frequently in church schools of the poorer districts.

It is claimed by some that all children are not equally susceptible to ringworm, any more than all are susceptible to tuberculosis or other infectious diseases. It is further claimed that there must exist a predisposition, or, more accurately, as suitable culture medium for the further development of the micro-organism. Chief among the predisposing causes given is a general lowered state of vitality, as in rickets, struma and tuberculosis, where the physiological resistance to

disease is below the standard of health. I have been unable to verify this, and am inclined to doubt that the physical condition has much influence in the diffusion of ringworm, although those who perspire freely are more susceptible to *tinia versicolor*. Of greater importance is cleanliness, for the contagium must remain in contact with the skin sufficiently long to develop, without the disturbing influences arising from a too scrupulous habit of cleanliness. Thus, uncleanly children with filthy surroundings are more subject to ringworm than those who are well cared for. This applies equally to all parasitic dermatoses.

In adults the most frequent sources of contagion have been attributed to: first, the barber-shop; second, towels in the wash-room of hotels and other public places; third, animals; and fourth, children having some form of ringworm.

The Barber-Shop.—The habit of using the same barber's utensils without previous cleansing, for different persons, may have been sanctioned in the days of the humoral pathology of our fathers, or the cellular pathology of Roekitansky, but should not be tolerated when we know that many contagious diseases are communicated in this way. The American barber-shop seems a model of cleanliness compared with the shops of tonsorial artists in some European countries. The cleanliness, however, is more apparent than real, for with the display of clean linen and gorgeous mirrors, the same brushes, combs and sponges are used indiscriminately. An instance comes forcibly to mind. It is one of many that might be cited. A gentleman of cleanly habits was shaved at one of the palatial barber-shops of Cleveland. A few days later he noticed a slight inflammation on his chin, circumscribed, slightly pustular, but otherwise attracting little attention. The disease continued to increase in area as well as in depth. Other areas of inflammation appeared in the vicinity until within a fortnight the whole bearded surface of the face was involved. The treatment adopted failed to arrest the development of the disease. About four weeks after the onset of the disease he entered Lakeside Hospital and gave himself up to more thorough treatment than had been found possible at home. Why boards of health continue to tolerate this menace to the well-being of the people, would seem incredible, were it not that such boards are too often incompetent and politically controlled.

Towels.—The custom of hanging a roller towel in many of the smaller hotels is likewise a source of great danger. Not only are the vegetable parasitic diseases thus communicated, but they likewise act as a mediate source of infection to more serious diseases, such as syphilis and tuberculosis. Nor are country hotels the only places in which this danger may be encountered. Who has not been obliged

to use his handkerchief in lieu of braving the dangers of a towel in many public places? In the wash-room of the Union Depot of Cleveland, about a year ago, the present writer had occasion to use a towel, and not seeing a clean one, requested an attendant to bring one, when he was told that there were none to be had. Such a condition, which is quite general throughout this country, deserves more serious attention than it has heretofore received.

Domestic Animals.—It is commonly observed that those who have much to do with certain domestic animals are frequently attacked with ringworm.

Sabouraud has shown that the special form of ringworm is largely dependent on the source from which it is derived. Thus, when contracted from horses and calves, it is especially virulent when inoculated on man, giving rise to the pyogenic forms as observed in sycosis and kerion: that derived from dogs, cats and fowls being less virulent, giving rise to *tinea circinata*, the mildest and most tractable of all. On Monday last there appeared at the clinic for skin diseases at Lakeside Hospital a man who five weeks previously had been bitten on the hand by a horse. The lesion was slight, but he noticed within a week that a red area extended beyond the original abrasion made by the horse's teeth. This gradually extended until an area of two inches was attained. Soon after the appearance of this primary lesion another appeared over the malar prominence of the cheek, which extended in like manner. When he presented himself for treatment there were five lesions in all, varying in size from a nickel to several inches in diameter, roundish or oval in shape, of a reddish color, having the peculiar fawn-colored accumulation of scales which is so characteristic of ringworm. A microscopic examination revealed the small-spored fungus composed mainly of mycelia with few conidia, which, according to Sabouraud, gives rise to *tinea tonsurans* or ringworm of the scalp in children. Whether the poison was derived from the horse or from another source is difficult to say, although the abrasion had probably nothing to do with the development of the micro-organism, which thrives on the horny layer of the epidermis. As seen by the writer in hostlers, dairymen, etc., ringworm appears most frequently on the bearded regions of the face, giving rise to severe sycosis parasitica accompanied with extensive suppuration and undermining of the skin, as in the accompanying illustration: next in frequency being the backs of hands and forearms. This is likewise severe and accompanied by suppurative inflammation. In such cases the *megalosporon ectothrix* of Sabouraud is usually clearly made out. Fortunately this variety yields more readily to treatment than does the

small-celled ringworm. Consequently there is less danger of individual diffusion. The usual length of time necessary to eradicate the disease when the patient entered the hospital has been from three to six weeks.

Other Sources of Contagion.—That adults of both sexes sometimes contract ringworm from children seems to be well demonstrated, although the microsporon or small-celled variety, which usually attacks children under fifteen years of age, is known to be difficult of inoculation on adults. It is only exceptionally, therefore, that the disease is communicated in this way. Ringworm of the hairless surfaces has been encountered in adults somewhat more frequently than in children. In the former the microscopic appearances correspond to Sabouraud's megalesporon, being composed almost wholly of mycelia. Moreover, it is commonly observed that the microsporon does not thrive well on the scalp of adults. Practically, therefore, adults are limited to the large-spored ringworms.

Measures Necessary to Limit Their Spread.—The imperative need of admitting children to asylums often renders it impossible to exclude certain infectious diseases. In large institutions such cases may be subjected to quarantine, but in more limited quarters, where children are compelled to mingle with one another, it is well-nigh impossible to carry out any rigid rules of isolation. When practicable this should be done, and a separate part of the building reserved for the accommodation of those afflicted with parasitic affections. At the Cleveland Protestant Orphan Asylum segregation was carried out by utilizing a separate part of the building, having school-room and sleeping apartments for infected cases, while the playground was divided by a high board fence. When this is found impossible, the scalp must be shaved and an impermeable dressing worn to prevent the diffusion of the contagion throughout the apartment. The medical director or attendant connected with asylums should exercise great caution in admitting cases of ringworm. Such cases usually enter before the disease is fully eliminated, when it presents some difficulty in detection. When found in an institution it should be immediately segregated.

The question of depriving children from the advantages of school during long periods of time naturally calls for serious consideration. If ringworm were a disease of easy eradication and only a few weeks of segregation were necessary the problem would be more easily solved, but the disease frequently extends over long periods varying from months to years. The writer believes strongly that such cases should be excluded from kindergartens and schools. For this there should be in all communities a medical inspector of schools. In Boston I am told such medical supervision exists. In Chicago I am informed by

the superintendent of schools that there are fifty medical inspectors of schools, under the joint jurisdiction of the Board of Education and the Board of Health. They assume their duties at 9 A.M. and work till 1 P.M. Pupils whose appearance indicates that they are not in a normal condition must submit to an examination, and if found suffering from infectious or contagious diseases they are sent home until they have recovered. From January 8th to March 21st, 54,000 examinations have been made, and 3,400 children excluded from school who had contagious diseases. Other cities may likewise have proper medical inspection, although it is not common throughout the country. The number of contagious diseases one finds in the school-room would scarcely be believed by one who has not taken the trouble to investigate. A number of years ago, while serving on the Board of Health of Cleveland, the writer served on a Committee for the Medical Inspection of Schools. It was found, in spite of the efforts of teachers and superintendents to exclude dangerous and infectious diseases, that many cases of ringworm, which were somewhat difficult of detection, were admitted, as well as other contagious diseases. That milder methods and a less rigid quarantine fail to eliminate the danger of infection may be readily understood. All methods devised for the prevention of disseminating the contagium are of little avail on account of the intimate contact between children at school which renders it impossible to exclude an element of danger. Further, when a child is excluded from mingling with others, those who are its sponsors are more liable to faithfully carry out measures directed by the medical attendant.

Barber-shops should at least be under the supervision of the Board of Health. While we know this may not amount to much, still it is a step in the right direction and it will more effectually direct public attention to the need. Minnesota has a law in force requiring all barbers to obtain a license. No barber should be allowed to use the same brush, sponge or towel on different patrons, without being first boiled, subjected to dry heat (250° F.), superheated steam, or otherwise disinfected. Absolute alcohol, a solution of formaldehyde, 15 per cent., or corrosive sublimate (1-1000) are among the necessary adjuncts to a barber's outfit. The barber should observe the same precautions that are carried out in clinics for contagious diseases, and should at least bathe his hands and sterilize his utensils after serving each customer.

Habits of cleanliness are largely a matter of custom. The person who would hesitate to eat on a soiled plate, using the same knife, fork and napkin that another had used in a public dining-room, without proper cleansing, might not hesitate to make use of a towel after

it had been previously used by another, although as a matter of cleanliness there is little difference between the two. While the public will tolerate the roller towel in hotels it will doubtless be furnished them.

Any disease existing on the skin or hide of domestic animals should be looked upon with apprehension, and care should be exercised by those coming in contact with them.

Finally, of the greatest importance in eliminating the spread of the parasitic dermatoses, is thorough and efficient treatment, which should be prolonged until the disease is wholly eradicated. A certificate to this effect should be given by the medical attendant before the person is admitted in close communion with others.

Society Transactions.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Wednesday Evening, March 21, 1900.

W. K. OTIS, M.D., Chairman.

ORDER.

I. Presentation and Report of Cases.

A. Secondary Nephrorrhaphy after Double Nephrorrhaphy.—DR. C. L. GIBSON.

B. Persistent Hematuria from both Ureters.—DR. A. B. JOHNSON.

C. Report of Cases of Urinary Extravasation.—DR. J. R. HAYDEN.

D. Report of a Case of Gonorrhea Treated by Mercuriol Irrigations.—DR. F. C. VALENTINE.

II. Paper:—**Seminal Vesiculitis as a Cause of Tonic Impotence.**—DR. RAMON GUTERAS.

Secondary Nephrorrhaphy after Double Nephrorrhaphy.

DR. GIBSON presented his patient, a young man, and said that he was operated on in October, 1898, by one of his colleagues at St. Luke's Hospital. At that time he had floating kidney on the right side. The kidney was stitched up with chromicized catgut in the conventional fashion after an excision of a portion of the capsule; the wound was closed entirely; the aponeurosis and muscles and skin all united. In January, 1899, he returned to the Hospital and was op-

erated on by the same gentleman for floating kidney of the opposite side, and the operation was conducted in exactly the same way. When he came under Dr. Gibson's care last July he had a marked descent of his left kidney. When operated on in October, 1899, his right kidney was apparently slightly dislocated, but not in the sense of a movable kidney. It could be easily palpated. The speaker confined himself to operating on the left side. The operation was done somewhat differently than before. In addition to the resecting of more of the fibrous capsule he excised all the fatty capsule he could easily get hold of. Then the kidney was anchored into the wound by three stitches, which were tied on either side of the wound, thereby suspending the kidney in the wound. The wound was diminished in size at its angles, the kidney being brought up to the surface of the wound, which was packed. The stitches were taken out at the end of three weeks. The sutures are ordinarily inserted about one-half inch from the edge of the kidney. He comes back now with a pretty movable kidney on his right side. His left kidney, the one operated on last, was distinctly palpable, but not movable. Dr. Gibson did not think it was hitched up unusually high nor that it could be regarded as a movable kidney as yet, although it might eventually. He brought him more to contrast the methods of operating. He believed the three essentials for success were thorough stripping of the capsule, removal of fatty capsule, and allowing the wound to heal by granulations.

In answer to a question Dr. Gibson said that when he re-operated on him his kidney was very movable and he had a good deal of pain. It disabled him; was unable to work. Just what the symptoms were before the original operation Dr. Gibson said he was not able to state definitely.

DISCUSSION ON DR. GIBSON'S CASE.

DR. A. B. JOHNSON said he would like to emphasize the remarks which Dr. Gibson had made in reference to the operation for movable kidney, although he did not entirely agree that the best operation was one which involved the passage of sutures of any sort through the substance of the kidney, for he preferred to split the capsule of the kidney and to separate the capsule from the surface of the kidney over an area an inch and a half in length and an inch in width, and to suture the cut edges of the capsule to the muscular wall of the wound, rather than to create a greater traumatism by introducing sutures through the secreting substance of the kidney itself.

He believed that the principle upon which the success of this operation depended had nothing whatever to do with the manner of introduction or the character of the suture. The sutures as he comprehended the thing were put in simply to hold the kidney in its position temporarily until a bond of union had been created between the kidney and the surrounding part consisting of a layer of living granulation tissue. If then the superficial wound were left open and allowed to heal from the bottom upward by granulation, the kidney was firmly anchored by a mass of firm tissue in vital connection on the one hand with the kidney and on the other with the structures of the abdominal wall. He knew of a case in which a movable kidney was thus anchored and in which the same kidney became the seat of tuberculous disease some years later. An abdominal incision was made for the removal of the diseased organ and the kidney was found so firmly adherent to the site of the former operation that it could not be torn away. It was necessary to cut it loose from the mass of connective tissue which fixed it to the abdominal wall.

Some little time ago he had had occasion to look up the ultimate results of a considerable number of operations for movable kidney. Some of them were treated by suture through the substance of the kidney, some by splitting the capsule and suture of its edges to the abdominal wound; the material used for these sutures was catgut. In all these cases the wound was left open and wound allowed to heal by granulation.

Of the cases treated in this manner the kidney had remained fixed in all.

One case, however, had been treated by means of silk-worm gut suture passed through the substance of the kidney and the muscular margins of the wound. In this case the external wound also was closed with stitches. The kidney became freely movable after a few months and the patient's symptoms returned.

It appeared to him that a principle involving much more than the mere question of whether we ought to leave the wound made for the fixation of a kidney open or closed was touched upon in this question.

There was, he believed, a misconception in the mind of some surgeons in regard to the purpose and action of sutures. We all know that if we put tightly drawn sutures through the skin and subcutaneous tissues that at the end of a week the pressure of the suture will have caused necrosis of the tissues to such an extent that the sutures will usually be found quite loose; in other words, they will within a short time have ceased to hold the wound edges in contact. If after a resection of the knee-joint nails are driven through the ends of the femur and tibia in order to hold them together, they soon become loosened by the absorption of tissues produced by their presence and they usually may be lifted out from the holes in the bones quite readily at the end of a few days. We sometimes hear a good deal of discussion in regard to the relative value of different kinds of suture material used in operations done for the cure of hernia: sutures of silk, of silk-worm gut, and even of silver wire are sometimes recommended because it is supposed or assumed that they continue to hold the sutured tissues in close apposition for an indefinite time.

He doubted whether this assertion could be justified by observed facts; indeed he had made numerous observations which led him to believe that the contrary was true. The more tightly a silk or silk-worm gut suture was tied, the sooner would it cause absorption of the compressed tissues and failure of the suture to maintain apposition of the wound edges.

The cure of the hernia, the union of the resected tibia and femur, depended not at all upon the suture material used, but upon the union of the parts by living tissue, and in order to obtain such union it was only necessary for the suture material to remain long enough for the healing process to get thoroughly under way. In the case of a resected knee-joint he believed that the results obtained would be just as good if the sutures passing through the bone were withdrawn as soon as the limb had been rendered immobile by a plaster of paris splint. In his operations for hernia he never used any other suture material than catgut, prepared in the ordinary way, and he had yet to see a recurrence which could be attributed to the use of this material. To suture an organ like the kidney in place with silk or silk-worm gut, with the idea that the fixation of the organ would be rendered more certain on account of the permanent character of such sutures, seemed to him to be a method based upon an entire misconception of facts.

THE CHAIRMAN, DR. OTIS, said that this case of Dr. Gibson's was very inter-

esting, and also the question of anchoring the kidney. He thought it could not be emphasized too much that absolutely the only means of anchoring the kidney firmly was to get an adherence between the capsule and abdominal wall by cicatricial tissue. In cases in which the wound was closed by primary union that did not occur. He had seen cases in patients in whom the wound was closed where the kidney was movable again before the patients left the hospital.

Persistent Hematuria From Both Ureters.

DR. A. B. JOHNSON presented the patient for examination and said that the case had been brought before the Section because it showed some unusual features, both from the standpoint of the surgeon and also from that of the pathologist. The history of the patient was as follows: She is a woman of 46 years, who enjoyed ordinary health until about nine or ten years ago, when she noticed that without any apparent cause her urine became stained with blood. This condition has persisted, with intermissions, ever since. About five months ago she came under his care complaining of pain in the region of the right kidney, and of bloody urine. There were no symptoms pointing to any disease of the bladder. The examination of her urine failed to show any evidences of an acute inflammatory process, and many examinations made at intervals during several years have failed to show the presence of tubercle bacilli. She has no frequency of urination, nor any pain in the bladder, but her urine is constantly bloody. The right kidney was distinctly movable. He had catheterized her ureters three times by the direct method, and bloody urine had been obtained uniformly from both kidneys. The right kidney was exposed in the loin by Dr. McBurney and carefully examined. It appeared to be healthy. It was fixed by splitting the capsule and sewing it to the muscular borders of the wound. The superficial wound was left open and packed. This operation had resulted in the entire relief of the painful condition from which she suffered, but the hematuria remained the same.

DR. GUITERAS asked how her kidneys were from a medical standpoint?

DR. JOHNSON replied that they were perfectly normal.

DR. GOLDENBERG asked if there were any other symptoms of a pyelitis, such as polyuria? If the case could not be classified, not having any evidence of anatomical change, might it not be called a neurotic hematuria?

DR. JOHNSON said he would have no possible objection to its being called that. He did not know what it was himself. He should think hemorrhagic pyelitis would be quite as good a name for it.

DR. LAPOWSKI inquired as to her menstruation, and also what reasons Dr. Johnson could give that the kidney was perfectly well; that there was no tuberculosis?

DR. JOHNSON said her menstruation was perfectly normal in every way.

As to the reason for the non-existence of tuberculosis in the kidney, he had no positive reason except that in the first place tuberculosis of the kidney attended by hemorrhage for ten years was rather apt to produce some change visible to the naked eye. In the next place the kidney had already been exposed, carefully examined and no lesion had been found. He could hardly imagine that two tubercular foci, one in either kidney, could exist for ten years without producing some serious lesions—something that would have a decided effect on the appearance of the kidney. Of course every now and then one did hear and see and operate upon a kidney in which the only sign was a moderate amount of pain and hemor-

rhage, usually not severe or chronic, and small foci of tuberculosis found in the kidney; but two such lasting for ten years he thought would be a surgical rarity, especially as we have no tubercle bacilli and the urine was examined many times.

THE CHAIRMAN, DR. OTIS, said he was exceedingly interested in this case because he was led into error in making the diagnosis in this case. Knowing that the kidney was not at fault—or supposed to be not at fault, he discovered on making a cystoscopic examination of this case that there was a distinct tumor in the bladder. It was not a tumor which should apparently be one that would bleed, but nevertheless he had seen tumors which did not seem to be any larger or any more eroded or vascular, which caused just this sort of bleeding for a long time—just a little blood in the water—never very much, but long continued, and without giving any particular symptoms. This tumor was sessile, but quite distinct, and on the occasion of first looking at it no bleeding was present in any direction, so he came to the conclusion that the presence of this tumor in the bladder accounted for the hemorrhage and that it did not come from the kidneys at all. He thought possibly the blood which had come from the ureteral catheter was caused by the catheter in the ureter. The catheter on the other side at that first examination became so stopped up that only blood from one ureter was obtained. He therefore was quite certain that the bleeding came from the tumor in the bladder. He took a photograph through the cystoscope of that condition of the tumor and it came out fairly well, and as the bleeding still continued no further operative procedure was determined upon. He managed to have another view of the tumor with the idea of taking another photograph, but on that occasion the patient was bleeding and it was distinctly from the ureters at that time, and as the tumor in the bladder at no time had bled, and on subsequent catheterization by Dr. Johnson when he was present both the catheters gave out bloody urine, he thought now the bleeding came from the kidneys; but it seemed to him a case that might well puzzle one in making a diagnosis.

DR. JOHNSON closed the discussion by saying that in reference to the tumor, which he thought might perhaps be more properly described as a projection of the mucous membrane, he supposed probably it was not a true tumor. It was situated in the first place, if he remembered rightly, at the summit of the bladder, and as they looked at it it was a projection, even, smooth enough, but did not suggest ulceration, and he supposed such projection of mucous membrane might occur in the field of the cystoscope without any positive tumor being present. Perhaps the mucous membrane was thicker at that point, but he thought it would be hardly fair to describe it as a tumor for he did not much think it was, although it did give one that appearance at first glance.

Report of Cases of Extravasation of Urine.

J. R. HAYDEN, M.D., read a paper with this title detailing the histories of these cases.

Case I. was one of scrotal extravasation.

Case II. Extravasation into the spongy body.

Case III. General extravasation.

In the first case a tight structure was situated at about the middle of the bulbous urethra, the extravasation came on suddenly and without apparent cause, and was followed by intense pain in the perineum and the scrotum became swollen and tender, accompanied by collapse.

In the second case a tight stricture was found about two and one-half inches

from the meatus. The extravasation occurred during a fresh attack of gonorrhea preceded by painful and frequent urination and began with a painful swelling in the perineum, which crept forward and involved the entire spongy body, except the glans.

In the third case there was a filiform stricture at the bulbo-membranous junction. Five years before the patient had had an attack of retention which was relieved by catheterization. For several months he had had difficult and frequent urination, which gave rise to much straining and a prolapse of the rectum. During the act of straining two swellings suddenly appeared, one in the perineum and one above the symphysis.

After describing the method of procedure, the author drew the following conclusions in regard to the treatment of this condition:

1st. The location of the stricture or strictures and their immediate relief by either internal urethrotomy, external urethrotomy or a combination of both.

2d. Thorough bladder drainage by means of a large perineal tube passed through the external urethrotomy wound.

3d. Free incisions into all the areas of extravasation, with liberation of urine, gas and gangrenous tissues and their copious irrigation.

4th. Thorough drainage and frequent irrigations of these incisions with change of dressing, which should consist of moist saline gauze and hot saline solutions, rather than iodoform, bichloride or carbolic on account of the possible toxic effects of the latter.

5th. Frequent urethral and bladder irrigations, the occasional passage of full-sized sounds, and internal medication to keep the urine in a normally acid condition.

DISCUSSION ON DR. HAYDEN'S REPORT OF CASES.

DR. GIBSON said that Dr. Hayden was to be congratulated on the successful issue of his cases. His own experience of about a dozen cases had been pretty unfavorable. Most of the patients were seen in a condition of profound sepsis, with diffuse infiltration and sloughing of tissues, especially in the scrotum.

Operations for the relief of this condition must necessarily be radical. An anesthetic could seldom be dispensed with, although it was *per se* an added danger. Most of these patients had vitiated tissues and they did not react well;—they died of delirium tremens, lobar pneumonia, surgical kidney, erysipelas, etc.

In two of his cases the ordinary perineal section could not easily be completed and in one, resort to Koch's operation was made with success. In an elderly man with prostatic enlargement retrograde catheterization via suprapubic cystotomy was done. This was not a particularly easy operation to do with a collapsed bladder.

DR. JOHNSON said that, as Dr. Gibson had stated, a large proportion of these cases were, when they entered the hospital, in so desperate a state that little could be done for them; and yet some very unpromising cases did recover.

Personally he preferred to dress these wounds by frequent washings with hydrogen peroxide and a wet dressing of a 5 per cent solution of aluminum acetate.

DR. GUITERAS said that his experience had been somewhat similar to that of Dr. Gibson, and he thought that in almost all cases where patients were alcoholic, tubercular or diabetic, that they went rapidly into a condition of gangrene and generally died. In all cases of extravasation of urine, whether it be in the pendu-

ious portion or the portion over the scrotum or in the perineum, in every case the perineal section should be performed. He remembered one case that he had shown here at the Section where a man simply had extravasation into the pendulous portion, and after making a few incisions into his penis and scrotum he was able to squeeze out all this pus just forming and then to pass a good-sized sound down to his bladder; therefore instead of performing perineal section he simply advised his physician to pass sounds every other day, and the result was that he had now a condition almost of elephantiasis. There is a large amount of cicatricial tissue in his penis and a number of sinuses leading into his urethra. If he had performed perineal section he thought that the result would have been much better. At any rate the patient was now alive, although at the time he was so septic that he feared he might not recover.

Again, in a great many instances, when extravasation in the perineum occurs, the surgeon will make an incision into the tumor and squeeze out the exudate, the extravasation or the pus, and then put on a dressing and allow the patient to go without performing perineal urethrotomy at the same time. He thought in such cases a perineal urethrotomy should always be done at once; but as Dr. Gibson said it was often difficult to perform perineal section. You had a great tumor there and you had to cut sometimes several inches of exudate extravasation and it was difficult to get into a collapsed bladder. He remembered one case in which by spending so much time in trying to find the bladder through the perineum the patient died on the table. Probably if he had given it up and performed a suprapubic cystotomy and passed a guide through the internal meatus the patient might have recovered. He did not know that he would have, however, as that particular patient was very septic. He remembered a case that came into the hospital with an incarcerated hernia, with scrotum and penis black. The diagnosis of strangulated hernia had been made. His general condition was bad. He found a tumor in the perineum which he thought came from a ruptured urethra. He performed external perineal urethrotomy and found it to be a case of extravasation of urine into his perineum. So he should agree with Dr. Hayden in saying that perineal urethrotomy should be performed in every case of that kind wherever the extravasation might be, together with incising all the parts that were extravasated, washing them out carefully, giving the patient internal urinary antiseptics, and then later perhaps using a dry dressing,—he thought first a wet dressing was best; afterwards a dry dressing of charcoal and iodoform.

Dr. HAYDEN closed the discussion by saying he merely wished to emphasize the conclusions already stated in his paper in regard to the treatment of urinary extravasation. If it is impossible, as it very rarely is, to reach the bladder by the perineal route, we can resort to retrograde catheterization. The bladder being drained, the extravasated urine is liberated, and sloughing, and gangrenous tissue is removed.

The question of dressings was a matter of personal choice. He preferred the simple saline solution because his cases had done very well with that. Of course others liked dressings, they were perhaps more used to.

Report of a Case of Gonorrhea Treated by Mercuriol Irrigations.—Dr. FERD. C. VALENTINE reported a case of acute anterior gonorrhea treated with mercuriol irrigations. The diagnosis was established clinically and confirmed by daily microscopic examinations. The free yellow discharge disappeared after

the first irrigation of 5 per cent. mercuriol; the turbid urine became clear at the same time. The gonococci disappeared on the second day of treatment. The irrigations used were 5 per cent., 2 per cent. and 1 per cent. In the beginning they burned severely. Thirty-two days after beginning treatment and twenty-five days after stopping it, the patient was put on the beer-test with a negative result; four days later his prostate and seminal vesicles were examined and found in health. Valentine does not unqualifiedly endorse mercuriol in the treatment of all gonorrheas, but deems his results sufficiently encouraging to warrant its being tested more extensively. The author called attention to the outward symptoms produced by intravesical irrigations of mercuriol, which he attributes to the employment of excessively strong solutions. In one case a 1 to 3,000 solution produced toxic manifestations, lasting acutely for four hours; with the patient painful urination continued for fifteen hours. In conclusion Valentine suggested that the real value of mercuriol would be established when the efficacy of mercuriol was demonstrated as a gonococcocide in cultures; when clinical research would establish the proper urethral and vesical dosage and when a chemical neutralizer would be found to immediately antidote the effect, if a strong dose accidentally entered the bladder.

Discussion carried on by Dr. Guiteras and Dr. Lapowski.

Relation of Seminal Vesiculitis to Atonic Impotence.—DR. RAMON GUITERAS read a paper with this title. He regards atonic impotence as by far the most frequent form, it may be partial or complete, and is due to a weakened condition of the lumbar centres. The ejaculations are premature, and the erections may be weak or entirely wanting. It may follow or be due to any weakening disease, or be due to some drug habit as alcohol, tobacco, bromide, cocaine, etc.

Atonic impotence he divides into two varieties, that due to irritation and the paralytic. The former being premature ejaculation, the latter feeble, flabby and dipping followed by very little sensation.

The form depending upon irritation is said to be due to congestion or inflammation of the internal genitals, the deep urethra, etc. This keeps the lumbar centres in a constant state of excitability. Posterior urethritis, stricture, prolonged sexual excitement, especially when not gratified, prostatitis, masturbation are quoted as the principal causes of excitation and irritation followed later by exhaustion and weakening.

In a number of cases examined by the author, he has found in nearly every case that the patient was suffering from an inflammation of the seminal vesicle. This inflammation varies in form, intensity and cause. While he believes that chronic posterior urethritis and prostatitis may be causes he feels that disturbance in the function of the vesicles is a more potent cause than either of the former conditions. Vesiculitis being often secondary to a pathological condition of the prostate. Naturally it is rare to find a vesiculitis that has not been due to an extension from the posterior urethra up the ejaculatory ducts, while in many cases of prostatic trouble pressure on these ducts interferes with the function of the vesicles, causing them to become atonic and further rendering them incapable of resisting inflammatory infection.

His method of treatment has consisted in directing these cases to abstain from sexual excitement or anything which tends to cause irritation, and believes we should avoid the use of stimulating drugs which, while giving temporary

benefit, later leave the patient worse off than before. Attention to the urethral conditions which may be present, treatment of the prostatic and vesicular inflammation by hot rectal douches, and judicious massage constitute the measures of allaying inflammation. After the subsidence of the inflammation then such tonics as strychnia, phosphorus, etc., will be found to be of use together with electricity, galvanism, faradism or a combination will be found useful at this stage.

Several cases were quoted by the author in support of these views.

DISCUSSION.

DR. VALENTINE said that any contribution to their further understanding of the diseases of the seminal vesicles and their manifestations must naturally be welcome. The author, however, it seemed to the speaker, did not lay sufficient stress upon one element in these cases of impotence. He did not show us that there were a large number of cases in which the impotence was merely functional and in which we would very much like suggestions regarding the treatment when we do not find the vesicles involved. There was one point in the author's statements which he should very much like to emphasize, and that was Dr. Guiteras's remark that at the first stripping of the seminal vesicles nothing might be produced. In subsequent strippings the amount of detritus brought forth from the vesicles was materially increased with the progress of the case, and eventually decreased again until nothing resulted. A case now under treatment showed seminal vesiculitis manifesting itself entirely in a different way. This was an otherwise vigorous man, 28 years of age, who never had coitus until his 25th year. Then he found it not pleasurable. His partner in the act informed him that it was extraordinary, as in his case, for the act to continue 20 minutes before ejaculation was produced. A urethritis ex libidine resulted, and was followed by vesiculitis. He repeated the coitus only three times in three years; he never enjoyed it except to a mild degree and subsequent efforts always resulted in this same way. Now he was undergoing treatment in practically the same manner Dr. Guiteras detailed for us.

One very serious and important question which the author had left open, and which was likely to produce trepidation in those of us who were getting into "the scar and yellow leaf," when he spoke of "the age at which impotency might be expected." Would he have the kindness to state that age?

DR. GUITERAS said that he was speaking of functional impotence. Atonic impotence was practically functional. He thought the cause of failure to bring out any detritus by massage in seminal vesiculitis at first in some cases was because the ducts were stenosed or there was a pressure upon them and the effect of the hot rectal douches and massage was to cause absorption of anything that might be there and to free the ducts so that the products might be pressed out through them.

The age,—he should say from 55 to 75. His paper was not a scientific one and the cases were reported in a narrative way.

Selections.

CUTANEOUS DISEASES AND SYPHILIS.

A Critical Study of the Justus Blood Test for Syphilis.—DAVID H. JONES
(*New York Med. Jour.*, 71, 1900, 513).

This test was applied to fifty-three cases; thirty-five syphilitics and eighteen control cases. The luetic patients suffered with various early manifestations of syphilis; all the control cases were negative to the test and two were tested twice. The conclusions can be summarized as follows: (1) The Justus test has a value in the recognition of doubtful cases of syphilis, although it is not infallible. (2) In cases with mucous patch with denied venereal history, and in ulcer of the larynx in which the question was between a syphilitic and tuberculous origin, the Justus test is of decided weight and importance.

(By the Justus test there is a marked diminution of hemoglobin in syphilis after an inunction or injection of mercury, followed by a rapid rise in percentage.)

Serum Therapy of Lepra (Culture of the Lepra Bacillus). Fourth Report on Serumtherapy of Lepra.—JUAN DE DIOS, CARRASQUILLA (*Wien. med. Wchs.*, 1900, p. 654).

From his investigations as reported before the Academy of Bogota the author gives the following directions regarding the technic in obtaining a culture of the bacillus: (1) The Lepa bacillus can be cultivated upon human blood serum or upon solid meat bouillons upon which human blood serum is spread, if the culture is prepared according to Herman's method. (2) The second culture obtained from the first presents an identical appearance with it. (3) The bacillus cultivated on bouillon is aerobic and motile. (4) The following conditions are necessary (a) An even temperature of 37 C. (b) The meat bouillon must be neutral or slightly alkaline in reaction. (c) The culture bottles must be large to admit sufficient air.

He expresses the hopes that the possibility of easily obtaining cultures will advance our therapy of lepra.

The Treatment of Syphilis with Iodabacid.—ARTHUR BRIESS (Neumann's Clinic, *Wien. med. Wchs.*, 50, 1900, p. 700).

Iodabacid in form of 0.5 tablets up to 2.5 gr. daily was administered to patients in various stages of syphilis. In the early and late manifestations of syphilis when other iodine preparations could not be taken by the patient, and a protracted use of the drug was indicated, iodabacid was beneficial. In cases of late syphilis where an energetic treatment with iodine is necessary, iodabacid is not advisable. In spite of the high doses used there were scarcely any ill effects during its use. Iodabacid has a better taste than any other iodine preparation.

Notes for the Study of (1) Superficial Myomata; (2) Scleroderma Following Injury; (3) Hypertrophy of Left Upper Extremity Following Trophic (?) Lesions; (4) Lupus; (5) Epithelium (some Comparative Observations).—

LESLIE ROBERTS (*The British Journ. of Derm.*, XII., 1900, p. 115).

The case reported is the eighteenth published; the tumors were situated on the right side of the face just in front of the ear, some were pale and others were pinkish red. They were flat and broad, slightly projecting, but the epidermis passed over them smoothly and without a break. To the touch of the finger they felt firm, solid, and somewhat elastic. They were removed by electrolysis with a strong current. Clinically (1) shooting pains were felt during cold, damp weather; (2) the tumors were symmetrically developed; (3) in the immediate neighborhood of the tumors the lanugo hairs were in a stage of hypertrophy, while the other portions of the face were perfectly hairless. (4) No regrowth after electrolysis was noticed; only few more new tumors developed. Histological examination did not give any clue to the origin of the growth. The hypertrophy of the lanugo hairs seems to point to the fact that the arrectores pilorum play an important part in the origin of the neoplasm.

(2) A few weeks after an injury to the abdomen the affected area became indurated and during the following years isolated patches of morphea appeared towards the right shoulder, descending the arm thence to the forearm and fingers. The index finger of the four years' patient is contracted, the thumb stiff and the skin between the finger and thumb is rigid.

(3) The peculiarity of the third case lies in a remarkable hypertrophy of the whole left upper limb in a woman of 16 years. Two and one half years ago, before there were any signs of hypertrophy, she noticed some blisters on the fingers of the left hand. They had arisen painlessly and unexpectedly in the night. The bullæ burst and left ulcers which took many months to heal. Since that event the limb has gradually hypertrophied to its present size, none of the other limbs participated in the enlargement. The muscles themselves do not appear to have taken part in the hypertrophy, while the contour of the bones, as was shown by a radiograph, was blurred, having participated in the hypertrophy. There was very marked dulling of the sensibility over the whole of the cutaneous surface of the left hand, forearm, upper arm extending slightly up the neck. The nails were enlarged like the rest of the hand.

(4) According to the author, we can diminish the number of relapses of lupus after cauterization, by judicious action before and after cauterization. The application of 5 per cent. of the diluted oleate of mercury, repeated inoculation of tuberculin, exposure to solar actinic rays and to the Roentgen rays, have a wonderful restorative action on tuberculous skin. They undoubtedly increase the success of the cauterity by quickening the process of absorption, by improving the nutrition of the cells, and attenuating the virulence of the bacilli. When the wound is healed, local use of mercury is very useful.

(5) Very interesting comparative observations on epithelium are given by the author. It will amply repay the reader to peruse the original remarks.

An Experiment in the Transmission of Syphilis to Calves.—MAZYCK P. RAVENEL (*The Amer. Journ. of the Med. Sc.*, 119, 1900, 420).

Two calves were selected, one a heifer, about 8 months old, the other a bull about 14 months old—both being tuberculous. The selected area for inoculation was thoroughly cleaned, and scrapings from a mucous patch on the lip and a

sore about the genitals of a patient suffering with syphilis were rubbed in, for not less than five minutes. The material was taken at the commencement of treatment. On the 9th day the skin formed scabs, dropped off, and at no time was there any appreciable amount of inflammation or swelling, nor did the animals show any discomfort. Fifty-four and 138 days respectively after the inoculation the two animals were killed and the organs were found entirely normal with the exception of the lung, where some tuberculous areas were found. The central and peripheral nervous systems examined microscopically revealed nothing.

Case of Syphilitic Disease of the Heart and Liver: Sudden Death.—PERCIVAL M. MAY (*British Med. Journal*, 1899, II., pp. 173).

The patient died suddenly a little over an hour after his admission to the hospital while complaining of intense pain in the front of the chest and constant vomiting. On auscultation moist rales were to be heard on both sides of the chest in front, but the heart sounds could not be distinguished at all.

The necropsy revealed a dilated and hypertrophied heart; it weighed 21 ounces. The right ventricle was much dilated and the right auriculo-ventricular valve was incompetent. In the left wall of the right ventricle at its upper part and between the two ventricles, was a hard, yellowish-white, irregular, nodular mass, about the size of a pigeon's egg, situated in the muscular fiber of the heart, and infiltrating its substance.

The growth was firm; when cut into, the surfaces gaped, and could not be scraped away with a knife. There was also a small nodule about the size of a pea occupying one of the pulmonary semilunar valves. The arch of the aorta was the subject of an acute aortitis.

The liver was hard and large, weighing 65 ounces.

There were many scar-like depressions and puckered cicatrices to be seen on the surface, and these, on being cut into showed yellow though circular masses. Microscopical examination of the tumor in the heart showed that it was a typical gumma.

The initial infection of the patient took place ten years before death.

Gonorrhea in Its Relations to the Male Adnexa.—EDWARD RUGGLES, M.D. (*Med. Rec.*, 1900, p. 184).

In an interesting article with this title the author has the following to say: "Chronic prostatitis is a far more frequent disease than is generally believed. It is my conviction that 60 per cent. of the cases of chronic gonorrhea which has run for a year or longer (excluding those with pronounced stricture), especially those cases which, seemingly cured, recur after coitus, use of beer, etc., depend upon the prostate for their continuance by obtaining from it a fresh supply of pus and bacteria each time that the urethra has been rid of their presence. In my investigation these bacteria have rarely proved to be gonococci; they are far more often the ordinarily non-pathogenic colon bacillus or the diplococcus urethræ, which even the most virgin urethra will be found to harbor.

"This is a question to which too little study has been given—that of the virulence which some non-pathogenic bacteria develop under certain conditions. The bacteriologist devotes practically his whole attention to the pathogenic bacteria and to newly discovered forms of germ life, and does not interest himself in such problems as the changed life of the colon bacillus; first, when inhabiting the

large intestine as a peaceful and probably helpful guest, and again in an attack of acute cholera morbus, or as an inflammatory pus-producing germ in the urethra, bladder, kidney or prostate.

"The diplococcus urethræ presents the same anomalies. Ordinarily perfectly innocuous to the urethra, it often is the agent which keeps up a post-gonorrheal discharge for years, and it is a question whether it can ever be completely dislodged from the prostate which it has once invaded."

He claims that often in the examination of prostatic secretion by approximating the cover-slip and slide, little specks will be seen, about pin-point size, which either visibly oscillate, make short excursions or else show they are in motion by appearing one moment as dark specks, the next moment as light refracting points and that on staining they will be found to be either the diplococcus urethræ or the colon bacillus, or both.

Treatment of Syphilis with Mercuriol.—A. JORDAN (*Clinical Journal, Russian*, vol. II., 1900, p. 155).

In fourteen cases of early syphilis the author used Blomquist's mercuriol (see this Journal, vol. XVII., p. 386). In the first seven days five grains of mercuriol were daily put in the bag, and later only every second day. In nine cases—papular eruption (4), macular (3), papulo-pustular (1), and lenticular (1)—the eruption disappeared in 14-26 days. In the remaining five cases injections or inunctions were required in order to cause the eruption to disappear. The eruption localized upon the breast and back, where the bag was applied, vanished quicker than in other places. In cases of angina, laryngitis, palmar and plantar syphilis, and in large condylomata, local applications of nitrate of silver, plaster and calomel were necessary to remove the symptoms. Mercury was demonstrated in the urine twice after the seventh portion was put in the bag, and once after the tenth. One month after treatment only a slight amount of mercury was detected in the urine.

The author considers the treatment with mercuriol a milder one than when inunctions or injections are used.

GENITO-URINARY DISEASES.

The Bactericidal Action of Urotropin and its Application to Cystitis.—

VITOLD ORLOWSKI (Pasternacki's clinic, *Gaz. Lekarska*, XX., 1900, 294).

In determining the bactericidal action of urotropin, the author investigated the period of time required for urotropin to destroy bacteria, and then confirmed the bacteriological findings by clinical investigations. He arrived, from his experiments, at the following conclusions: (1) Urotropin, as compared with sublimate and carbolic acid has a lower germicidal power regarding the vibrio chol. Asiatica, the staphylococcus pyogenes aureus, the bact. coli commune, and anthrax. (2) In the presence of albuminoids the anti-septic action of urotropin is lowered. (3) It has an effective anti-septic action toward bacteria of urinary fermentation, especially at a temperature of 37.5 C.; its action is greatly increased when passed through the system. (4) Urotropin hampers the development of bacteria not only of the alkaline but of the acid fermentation of urine. (5) Its antiseptic action is greater than that of salol. (6) In the system urotropin is decomposed forming formaldehyde.

From his clinical observations conducted in Pasternacki's clinic, he draws the conclusions that (1) Urotropin in cystitis increases the acidity of freshly voided urine, and changes the former alkaline into acid reaction. (2) It diminishes the amount of pus, mucus and albumin in the urine of patients with cystitis. (3) Simultaneously it diminishes or stops urethral pain caused by the passage of urine. (4) The improvement produced by urotropin continues after the discontinuance of the remedy. (5) It does not probably act as a diuretic. (6) Undesirable symptoms have not been noticed during its administration.

Further Observations upon Catheterization of the Ureters.—M. L. KREPS
(*Urach*, 1899, p. 1349.)

The author gives clinical histories of three cases of catheterization of the ureters which revealed, in the first case, multiple cysts in the kidneys, in the second a fistula between the bladder and neck of uterus showing at the same time the involvement of the ureter. The third case presents a peculiar interest, as it is the third case on record where the disease was recognized by the cystoscope.

The patient, 52 years of age, noticed that his urine for the last two years was sometimes mixed with blood. No peculiar symptoms accompanied such a bloody urine. It usually lasted several days. In the last months he lost flesh, suffered from constipation, belching and palpitation of the heart. Sometimes, pain would appear in the lumbar, kidney and anal regions. Pruritus troubled him very little latterly. During the day he passes water not oftener than usual, at night he has to pass it three times. He is suffering for the last week with bloody urine. Nothing can be revealed by palpation of the urethra prostate, and bladder. On ocular examination the middle lobe of the prostate protrudes into the lumen of the bladder in the shape of a large nut. The bladder is normal, no catarrhal signs, but the vessels in the bottom of the bladder are filled, important changes are noticed in the veins, namely, they appeared as several thick sticks with developed branches of dark blue color and thickened nodules. One of those nodules was slightly bleeding, and the author seeing this picture was not inclined to regard it as hemorrhoids of the bladder veins, recalling Nitze's statement that he never saw a clear picture of hemorrhoids of the bladder. The blood was coming more and more, reddening the boric acid solution injected.

On directing the prism to the openings of the ureters he noticed that the urine escaping is slightly red, but on further examination he convinced himself that the redness was only an optical delusion; that the motion of the red liquor in the bladder due to the contraction of ureters gave a supposed red color to the normal urine escaping from the ureters.

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AMERICAN DERMATOLOGICAL ASSOCIATION.

TWENTY-FOURTH ANNUAL MEETING, HELD AT THE HOTEL GORDON, WASHINGTON,
D. C., MAY 1, 2 AND 3, 1900.

FIRST DAY, MAY 1ST, MORNING SESSION.

Address by the President, DR. H. W. STELWAGON, of Philadelphia.

GENTLEMEN:—It is an honor, as it is a pleasure, to welcome you all to this meeting, the twenty-fourth of the Association and the fifth in connection with the Congress of American Physicians and Surgeons. In accordance with custom I shall ask your indulgence for a few preliminary remarks before taking up the scientific business of the session. It is not my purpose, however, to review the subject of dermatological advance and thought during the past twelvemonth, as my immediate predecessors have so ably done, but to present to you, as others have perhaps already done before me, observations bearing upon the practical part of dermatology and some of the purposes of this Association. These meetings, almost too infrequent, engender in all of us mutual respect, and regard, and a tolerance for difference of opinion, and are well worthy of our time from this standpoint alone. Attendance should be considered not only a privilege and an honor, but a duty—fealty to our organization, and loyalty to our specialty.

This Association is not limited in its purposes to a single object, but has many aims—the gathering together for the reading of papers is the apparent one and of course an important one, but the increase of knowledge and experience, the broadening of our views, and the absorption of fresh ideas and the incentive to renewed work are all favored by our coming together. There is, in fact, no such thing as standing still in any professional calling, in medicine probably less than in any other—it must be either going forward or backward. One needs but to recall the meetings and clinical sessions of the Association for the past few years to be reminded that there is much that is even beyond the pale of conjectural classification. It seems to me that the principal aims of this Association are: 1. The reading of papers, with the discussion and the resulting stimulation to work and increased knowledge. 2. The widening of our in-

fluence in the preparation of the medical student to meet his responsibilities in this branch of medicine. 3. The quickening of the medical conscience as to the duty of the practitioner to his cutaneous patients. 4. The consideration of measures for the limitation and prevention of contagious diseases of the skin; and 5. Consideration and adoption of feasible suggestions which may increase the influence of this Association.

As regards the first, a review of the papers and discussions thereon since the organization of this Association in Philadelphia twenty-four years ago, will show that the members have not been remiss in this respect. Examination of the various publications discloses that in clinical description, therapeutical management, histological and bacteriological contributions, American Dermatology, of which this Association is the representative, deserves and receives the respect from its kindred Associations on the other side of the ocean. In view of the interest in the present meeting, as shown by the printed program and attendance, it requires no expression of your presiding officer to urge that this energy be not relaxed. To the older members, this Association owes much for the constant and inestimable service they have rendered by being always present and contributing valuable papers. Indeed, judged by devotion to dermatological interest, regular attendance, the presentation of fresh and scientific papers, the word old, even in its comparative sense, is a misnomer, for in reality gentlemen this Association has no old members. The junior members, and the new members present to-day for the first time, have but to imitate this active interest of the senior members in order to continue this Association as a prominent factor in advancing our specialty and general medical education.

Our ultimate aim is the diminution of suffering and the cure of disease. It is well to remember that this end is not attained by the clinician alone, nor by the therapist alone, nor by the pathologist, nor by the bacteriologist, but clinical observation, therapeutical experimentation, histological and bacteriological investigations must go hand in hand, each having an important and a necessary share in the final result. Bacteriology especially must be persistently cultivated, for I believe it is from this direction that we are to hope for the most brilliant advances in improved methods of treatment and the suggestion of means of preventing disease. At the same time I do not wish to be understood as believing that microbic life is the only factor in many cutaneous diseases. The hereditary receptivity, the family vulnerability, the environment, and the state of the general health, are factors of moment in many cases, and their removal or modification by hygienic and constitutional treatment will often render the microbic invasion less calamitous, and be of aid, secondarily probably in many cases to the local measures in removing the disease. And may it not be possible, as the use of antitoxins and serums appears to promise, that the future will show that remedies constitutionally administered may in some diseases by their antitodal effect, or by their effect upon the nutrition of the cutaneous tissues and the cutaneous secretions, make the skin structures an unfavorable habitat for propagation and vegetation, and thus favorably influence the cure.

The plan of the Council selecting a subject of general and scientific interest, and having it presented in its various parts by several members, and the subject then generally discussed, has proven most excellent. One has only to refer to the papers and discussion on tuberculosis of the skin at our meeting in 1891, on alopecia areata in 1892, on syphilis in 1897, on lupus erythematosus in 1898, that on the rôle of pus organisms in cutaneous diseases in 1899, to recognize the character of investigation and work most appropriate for these meetings. I

believe the papers and the discussion on the subject chosen for this meeting—malignant diseases of the skin—will add further proof and incentive for the continuance of this plan. The picture exhibit, too, especially commends itself, and the suggestion put in force at this meeting of having an adjacent room in which these may be kept constantly up for inspection during the period of our sessions, will prove of great advantage for the proper and more leisurely examination of these prints of rare and interesting cases. The clinical session of our meetings—the showing of unusual and rare cases—means that our meeting place must be in or near large centres of population. This comparatively new feature of our meetings is, in my judgment, the best part of our yearly reunions, and should, if possible, be an annual one; and it is worthy of consideration, I think, whether the clinical session should not be the first or middle session of our meetings instead of the last as has been customary. Microscopical sections showing pathological tissue and microbic life, and bacteriological cultures, constitute another feature which should be encouraged, and which can be made a part of our picture display, and kept constantly subject to inspection. The newest feature of all is the lantern exhibit. One must admit that it is so full of interest and so admirable in its delineations, that a judgment as to its feasibility as a regular feature should not be too hastily expressed. Unfortunately it usually requires a special session, extra time and often a special room, and for these reasons the question naturally arises whether to us as experts the prints would not be sufficiently satisfactory, either being passed from hand to hand at the times of the reading of the paper, or made a part of the picture exhibit.

Another point to be considered by the Association is the advisability of holding three sessions daily; in view of the increasing membership either this plan will be necessary or the meeting lengthened to four days. The present rule as to limiting a paper to twenty minutes should be strictly enforced except possibly with the papers from the gentlemen especially selected by the Council for the presentation of the subject for discussion. The essence of papers is all that the trained specialist requires, details and minutiae, important it is true in some respects, could be well left to appear in the printed article. The strongest and most valuable element of our meetings should, in fact, be the discussions; these have seemed too meagre. It would indeed be a great advantage in this respect if members gave preliminary thought to subjects and papers to be read and discussed as shown several weeks in advance on the printed program.

The second subject and one which is certainly of great interest to us all, both as an organized body and as individuals, is the teaching of our branch in our Medical Colleges. From time to time this subject has been treated more or less at length by other members of this Association, and this should be continued at intervals not only till the time is reached when all the Colleges give it its proper place in the curriculum, but even thereafter the matter should occasionally be discussed as to better and improved methods of imparting information. As has been shown, in 1876, there were only twelve colleges in this country which gave special instruction in this branch, and in some of these simply as a part of the spring course; in 1890 this number had been increased to seventy-five, and the instruction in many considerably broadened. In none, however, was attendance compulsory or an examination required. To-day there is probably not a single college in which such instruction is not given as a part of the regular winter work. The opportunities of the student for the proper study of this subject have been also much enlarged, so that upon the whole, considering the many demands upon the student's time, we obtain a fair share. This is but right as our branch has

more than the ordinary claims to be considered a necessary part of a general medical education. If there is a specialty that is not a specialty in the sharp definition of that word, but a necessary part of a general medical education it is dermatology; it does not require for its successful practice, as do the specialties of the eye, throat, nose and ear, manual dexterity and particular training in the use of delicate instruments.

The colleges have rapidly, of late, one after the other, however, acknowledged the close relationship of cutaneous diseases to general medicine, and the leading institutions with one or two exceptions, and many of the smaller schools as well, now require an examination for graduation, and have accorded it the standing of a faculty branch. The time is fortunately long passed when medical schools seemed to be satisfied with teaching limited in its scope mainly to the dangerous medical and surgical maladies. To-day the student gets the essence of the practical part of the various special subjects from special teachers, in addition to thorough grounding in the fundamental branches, and are graduated well equipped and well rounded general practitioners in the true sense of that word. Our own part could be still further strengthened by a ward, however small, in the college hospital devoted exclusively to cases of diseases of the skin. While all these hospitals give beds to such patients in the general medical or surgical wards, so far as I have been able to ascertain not one in this country has a ward set aside exclusively for these cases.

Our whole responsibility to the student and the public is not fully discharged, however, with having secured college recognition of our branch, but it should be considered the duty of every member of this Association to urge upon their State Examination Boards the justice and propriety of a few questions on the more important cutaneous diseases, more especially those of a contagious nature. Such an effort has already been made in Pennsylvania, and with every prospect of final success. So far as my knowledge goes New Jersey is the only State which distinctly mentions that the examination in medicine will include such questions.

Now that the opportunities have been given by the colleges, our responsibility has increased, and must we not often ask ourselves what and how are we to teach? How give all that will be useful as a foundation and yet not bewilder the mind of the student with too much that is unnecessary or say impossible for him to absorb? An experience of fifteen years in teaching has only served to add strength to the belief that we are apt to aim too high. With our share of the students' time, the teaching should, I believe, be essentially held to practical lines and to a consideration of the more common diseases; rare and strikingly unusual cases, personal hobbies and unnecessary names and synonyms should have no place. Our duty should be to fit the student for general practice; he can pursue the subject more deeply after graduation if his ambition lies in that direction. Etiology must of necessity receive some consideration, symptomatology and likewise pathology, and the principles of treatment, but the main force of our teaching, if we are to make it count in practice for our student and his later patient, must be upon diagnosis—the most difficult part of the subject to the beginner. The general clinic and the section teaching in the dispensary service should constitute the essence of our method. A short didactic course, with good plates and wax models, bearing systematically upon the most important diseases, is an advantage added to the clinical part of the teaching. This all with occasional recitations, and some pathological demonstrations in connection with the college pathological course, make up, I believe, the best plan for the

undergraduate. A good student, if he has been attentive, will, with the foundation thus acquired, be able to add to his knowledge and pick his way among the more common and less obstinate diseases; the persistently rebellious and obscure cases he should be only too glad to send to those especially qualified, and where they properly belong.

To the graduate—post-graduate so-called—our main cities can also well furnish opportunities for the acquisition of increased dermatological knowledge, both clinically, and in connection with the college pathological laboratories, bacteriologically as well; a trip abroad is no longer absolutely necessary for this purpose. We cannot overlook, however, the advantages of vast material at command in the European centres, and the ambitious student is naturally lured in that direction. In my European days Vienna was, I believe, the place to advise, but that no longer holds true, at least not to the same degree. Paris has certainly come again to the front in our specialty, with its brilliant galaxy of workers, and its abundant material, its fine museum of models, and its bacteriological laboratories. And London, too, with its many distinguished and active workers, has much to offer, especially clinically, to the dermatological student, with the advantage of the English language. Berlin also is exhibiting increasing dermatological activity. There are, of course, many other smaller centers, such as Hamburg, Munich, Prague, and Copenhagen, where much can be done and much learned, especially in certain lines.

Another subject which must interest us all is the duty and responsibility of the general physician to his cutaneous patients. One must confess that there is a sad lack of conscience, or to say the least, thoughtfulness, with some physicians in respect to the treatment of cases of diseases of the skin. Strange to say that at even this late day the cure-all physician is yet among us, and the doctor who thinks he owns his patient has not entirely disappeared; and the physician is still practising who says he does not believe in specialists—except, may I add, for himself and his own family. There is fortunately an overwhelming and increasing majority of well educated practitioners who know their limitations, and when this is reached, conscientious guardians of their patients that they are, refer them to some one better qualified in the particular class of diseases in which such patients may need help. Well-trained physicians, if they have made good use of their student opportunities, are fully competent to look after average and mild cases. But it is the physician who continues to treat he does not know what, the physician who repeatedly cures a tubercular syphiloderm, thinking it lupus vulgaris, the physician who keeps on giving potassium iodide for tinea versicolor, and the physician who permits scabies to run through a family and then not recognize it; the physician who otherwise conscientious and intelligent, prescribes for all his cutaneous patients whether the disease be acute, chronic, sluggish or active, the proprietary (semi-quack?) ointments glaringly advertised in the medical journals—these are the physicians whose betrayal of the confidence and trust reposed in them by their patients deserves censure, and against whom we should have something to say. May we not naturally ask ourselves if we are called upon to protect such men from the just indignation of their patients? Or should I not say, are we not called upon to expose such injustice.

Fortunately patients are beginning to learn for themselves that they have the right to seek special skill. The general public is awakening to the fact that it is no longer possible for a physician to possess omniscience and special skill in every branch of medicine. Division of labor and knowledge, or in other

words specialism, has not only made a strong impress upon medicine, law and other professional pursuits, but even the trades have been gradually forced to succumb to this advancing progress. These strictures are not, needless to say, a plea for a greater clientele to crowd an already comfortably filled office—far from it—but are a plea, as our individual and collective efforts in this direction show, for all the colleges to emphasize the importance of this branch, a plea for the student to make full use of the valuable opportunities given him for the study in this and other special departments of medicine, and finally a plea for the general practitioner to recognize his limitations in the various special lines of practice.

The fourth object or aim of this Association, and yet of great importance, is the consideration of measures for the prevention and spread of contagious cutaneous diseases. There are, I need not say, many preventable cases of ring-worm, favus, impetigo contagiosa, scabies, etc., if the disease is at once recognized. This again presupposes that the physician has been properly trained in this branch. The statistics of the American Dermatological Association disclose a percentage of contagious cases approaching closely to twenty per cent., and this would be higher if diseases of doubtful contagiousness were included. In Philadelphia dispensary practice, according to my own experience, the proportion is fully twenty-five per cent. The contagious centers, such as public schools, asylums, children's "homes," day-nurseries, lodging houses, barber shops and immigrant quarters on ships, need proper sanitary supervision. My own observation with cases of the itch in private practice is that the hotel bed is a frequent factor. Complete change of bed linen after the bed has been occupied should for many other reasons than here hinted at be legally required of hotel and inn-keepers.

It is not my purpose, however, to go into a discussion of the prevention and limitation of contagious cutaneous disorders, inasmuch as several gentlemen will present papers directly bearing upon this important subject. A few words, however, as to leprosy. Leprosy is a disease which must be as yet considered from the standpoint of prevention; the consideration of this disease should not be left to hysterical and newspaper doctors. Recognizing the importance of the present agitation by the public press and the efforts of the leprosy commission of the Marine Hospital Service, I thought it an opportune moment for its consideration by this Association, in whose hands it properly belongs, and took the liberty of suggesting to the member of this Association whose leadership in the knowledge of this disease we are all ready to recognize, to present such a paper at this meeting, which I trust will be fully discussed by those who are brought most frequently in contact with the disease. With the suggestions of this paper and its discussion as a basis, I would strongly urge upon the Association the appointment of a committee to formulate a broad plan for the prevention and control of this disease, and for the proper housing of the cases now scattered in various parts of this country, still comparatively small in number. This could be presented for discussion and adoption at our next annual meeting, and then officially handed from this Association to the proper authorities. The harsh and barbarous care of the scattered cases of this disease by some of our cities—a disease, in my judgment far less dangerous to the community than cases of tuberculosis or cases of active syphilis—is a disgrace to civilization and humanity, and we should do all in our power to lessen the misery of these poor unfortunates.

Under the fifth division of these remarks, I wish, first of all, to call attention of the Association, as several of my predecessors have already done, to the mat-

ter of our printed transactions. There has been a great improvement due to the incorporation of the papers at full length, but there yet remains to make the transactions correspond to the dignity of this Association the outside dress, which should consist of good cloth binding. This, with heavier and finer paper, would not add materially to the cost, and yet the transactions would thereby be transformed from a pamphlet to a volume. In this connection it gives me pleasure to refer to the great service rendered this Association and American Dermatology by the JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES, under the several gentlemen, our fellow members, who have unselfishly edited its columns for the past seventeen years. The character of the papers, the high tone at which the publication has always been kept, and its fearless criticism and freedom from commercial domination, merit our support and unstinted praise. But gentlemen is the time not yet come in this country for the appearance of a monthly journal devoted exclusively to the subject of cutaneous medicine? Syphilis this naturally includes, but gonorrhea, urethral strictures, prostatic disease and the like have absolutely no relation to dermatology and should not be linked with it. The ideal special journal of this kind, devoted to cutaneous medicine alone, would, it seems to me, be one published under the auspices of this Association, with an editorial committee of its own appointing, and would be a distinct gain to American Dermatology; and I hope the idea is not so chimerical as to be beyond future, if not immediate, realization.

In one more way the advance and interest in our branch, stimulation of scientific study and its resulting public benefit, could be promoted, and that is by the offering of thesis prizes, based upon original work. We should be awake to such possibilities in our dealings with our wealthier patients. The College of Physicians of Philadelphia, as well as doubtless other corporate societies of similar character, has endowments, the interests of which have been severally directed to be paid for the best theses showing original investigation on general and special subjects—none as yet specifically for a dermatological topic. Such reward could be held out in connection with undergraduate study or for graduate physicians. Would it be considered Utopian for me to suggest, in view of the promising condition of our treasury, the possibility of such a prize, say of two or three hundred dollars, every two or three years from this Association, to be awarded for the best original work of sufficiently high order from undergraduate sources, such offer to be made in the various college announcements?

I cannot end this address without referring to the fact of the International Dermatological Congress to be held in Paris this year in the week beginning with the second of August. Important discussions are scheduled for that meeting, in some of which several of our members have been selected to take a leading part. In addition some of us will contribute papers, and many others, I trust, will be there to add to the representation from our Association. Would it not be well for those of us who are to be present at that Congress to make the effort, in the name of this Association, to have the next International Congress in our country?

Thanking you for listening patiently to these rather loosely connected remarks, I now declare the meeting open for the transaction of the scientific business as outlined by the program.

Bullous Dermatitis (Dermatitis Herpetiformis?) in Children.—DR. J. T. BOWEN of Boston, detailed five cases following vaccination and exhibited photographs. He referred to the ease and frequency with which the laity ascribe any succeeding ill to vaccination. Of these five cases, in three the eruption appeared within two weeks after vaccination, in one within a week, while in another it did not show itself until after the lapse of a month. In four of the cases there appeared to be ground for the assumption that the vaccination in some way influenced the appearance of the eruption. In attempting to classify the cases, certain characteristics that have not been emphasized as usual features of dermatitis herpetiformis force themselves upon our notice. The localization of the lesions was striking, as there was a marked tendency to grouping about the mouth, chin, nose and ears, and upon the backs of the hands and feet. Beside this, the extensor aspects of the extremities were in general more prominently affected. In all the cases the trunk was affected but slightly as compared with the other regions of the body. The itching was not very pronounced. In the present state of our knowledge of the bullous dermatoses it is wise to go slowly and imprudent to draw deductions from any but a large number of carefully reported cases.

Dermatitis Vesico-Bullosa et Gangrenosa Mutilans.—DR. GROVER W. WENDE, Buffalo, N. Y., reported two cases having a hystero-traumatic origin. One of these occurred in a female seventeen years of age, who had employed carbolic acid for the removal of a wart which was located upon the back of the hand. The result of this was a dermatitis which subsided in a few days, but later, the vesicles and bullæ returned upon the forearm in the form of areas. Vesicles were afterwards discovered over the second joint of the little finger, rapidly changing into a superficial gangrenous process, accompanied by darting pains. After one month mortification was completed, necessitating amputation of the two fingers. In one week's time the process again spread over the arm, the lesions being made up of broken and unbroken vesicles bullæ and numerous parchment like plaques, varying in size from a split pea to a silver dollar. Later on, only large gangrenous lesions appeared upon the body. The condition in some respects resembles neuritis ascendans. The affection first began over the ulna nerve, anatomically following one nerve after another up the arm, until the anterior and posterior thoracic branches of the brachial plexus were affected by the process.

The second case originated with a girl who was highly neurotic; at times her body was completely anesthetic. The gangrene was preceded by a well marked inflammatory disturbance, with vesicles. The special interesting feature of the case was that it was confined to one region, namely, that of the right buttock. The affection lasting over four years, the patient having one or two attacks each year. The experiment of auto-suggestion was tried upon the case with marked success. Vesicles formed within twenty-four hours and gangrene appeared twelve hours later, although the process was less severe than the preceding ones. At the time of the experiment the general anesthesia had disappeared, but again returned after the experiment had been performed.

DISCUSSION.

DR. J. N. HYDE: The cases of this sort which I have seen are of a class which makes demands upon those of us who attend institutions for children. On

one or two occasions I have been called to such institutions where there were children with bullous and other eruptions which follow vaccination liable at any time to be transferred from one room of the main building into a cottage adjacent for contagious diseases. I say "bullous and other eruptions," because I suppose we are all familiar with the other eruptions which sometimes follow vaccination.

Sometimes I have found it extremely difficult to make a diagnosis. I would like to ask Dr. Bowen what method was employed in the vaccination, and whether the virus used was that now largely employed, in the tubes. We cannot trust to uniformity in these products of the vaccine farms.

With reference to the second paper, Dr. Van Harlingen and I both made contributions, at the time to which the reader refers, on the subject of lesions of hysterical type; and Dr. Montgomery and I have both had the opportunity of seeing cases in Chicago. One of Dr. Montgomery's patients suffered amputation of a finger, though after putting a plaster cast upon the arm the lesions entirely disappeared. I confess, in cases where we suspect an artificial origin of the dermatitis, I usually despair of demonstrating the fact.

DR. M. B. HARTZELL: It is a very curious fact that in some years vaccination is followed by these eruptions, and then, for a long series of years, they are absent. This would indicate either that there is some climatic condition which favors their development, or that the quality of the vaccine virus varies very greatly. I remember a few years ago seeing a number of cases similar to those described by Dr. Bowen, and I think the President will also recall having seen them, but since that time I have not seen any, although vaccination has been quite general in Philadelphia, as in all large cities. The distribution of the eruption would also suggest its close kinship with erythema multiforme. It is true that the eruption was a bullous and vesicular one, but, as we know, in exceptional cases the lesions of erythema multiforme may also be of this kind.

As to the propriety of the name dermatitis herpetiformis, these cases do not conform to that type, as I understand the lesions were remarkably uniform.

In the cases of dermatitis of the second kind, I think we must all be on our guard as to the matter of their artificial production. It is an extremely interesting, and perhaps instructive fact, that, in the vast majority of cases of this kind, they began with a traumatism. In many instances this was a burn, either by fire, or by some caustics such as mineral acid, or by steam, and it is difficult to avoid the conclusion that in some of these cases at least the eruption was self-produced, notwithstanding the frightful amount of mutilation which has occurred. We all know that an hysterical woman will stop at nothing.

DR. J. C. WHITE: We are all familiar with the fact that a large number of dermatoses of an acute character come after vaccination, and are referred by the patient or family to vaccination. I fail to see that the reader has made any such close connection between these appearances upon the skin in all the cases, and the prior process of vaccination as would warrant the conclusion that they necessarily had anything to do with it. I think if we should argue from the references which are so constantly made we should have to look upon vaccination as one of the chief factors of diseases of the skin in children! This I am not prepared to admit.

An interesting point in the locality of the lesions described is that they are so like, not only the eruptions in erythema multiforme, but also those of staphylococcus disease. They are around orifices and upon the hands and feet; in other words, they are upon those parts that are most exposed to auto-infection.

I think that possibly this may explain to some degree the localization of these forms of disease. The reader said nothing about the presence or absence of staphylococcus or other bacteria in these conditions of the skin, but he informs me that such examinations were made with negative results.

With regard to the second paper, that read by Dr. Wende, I have no doubt myself that the disease may exist in this most typical form without any possibility of self-infliction. The first case following the application of carbolic acid, which leads to a similar mummification or necrosis of the tissue, and the extension of the same type to other parts, is very interesting; of course, it may be only coincidental, but I think it might be very well to question whether the first development of the disease might not have something to do with the peculiar form produced by carbolic acid.

DR. SHERWELL: The presumption is to my mind, as Dr. White has said, strongly in favor of malingering from its appearance, seat, etc.; the only way to ascertain this positively would be by use of a sealed and immovable bandage. I recollect in my practice two similar cases in which this mode of treatment demonstrated the deception.

Dr. Bowen's cases. All sorts of eruptions occur after vaccination. We know a sort of mild keloidal scar tissue is sometimes apt to come in groups of cases, even when lymph has been used, derived from a variety of sources; the non-humanized virus now almost so exclusively used is apt to produce very striking inflammatory symptoms in many children.

DR. W. T. CORLETT: During the past year I have met with two cases which correspond very closely to those so fully described in this paper. I have here a photograph of one of the cases which appeared three weeks after vaccination. It is of interest to note that the eruption did not first appear on the arm vaccinated, but on another part of the body. This information was obtained from the mother who was not positive as to the part on which it first appeared, excepting that it did not appear on the "sore arm." The lesions were bullous from the first and were regarded as pemphigus by the family medical attendant. The patient was admitted to my ward in Lake-side Hospital where an excellent opportunity was given to study the case, which is still under observation. In no instance have we been able to find any tendency to an herpetiform arrangement of the lesions. It bore a close resemblance, in fact seemed identical with the cases of impetigo contagiosa—bullous impetigo—which have been under observation in the same ward, a report of which has previously been given. It was accordingly classed in this group. Specimens of the fluid from the bullæ were sent to the laboratory, where bacteriological observations were made, showing the staphylococcus, in some instances, while others were sterile. General or constitutional symptoms were also absent in these two cases. In regard to the relation of these eruptions to vaccination, I have maintained, and see no reason to think otherwise to-day, that the disease under discussion is not necessarily associated with vaccination, inasmuch as ample proof exists that a scratch may sometimes produce similar lesions. Further, an interesting feature is, in both of these cases the vaccination had apparently healed before the eruption began. In all instances of extensive post-vaccinal eruptions that have come under my observation the ordinary points or crusts have been used, and in no instance have I observed the condition when glycerized virus preserved in sealed tubes was used.

DR. W. T. CORBETT, of Cleveland: Discussion Dr. Wende's paper on Spontaneous Gangrene of the Skin. In regard to Dr. Wende's paper, I have had

three cases of this form of cutaneous disturbance. The first has already been reported to this association, and some present may recall this photograph of the case, which I now show. In this case the peculiar cutaneous disturbance was attributed to the contact of a grape-leaf to the part affected, as it followed the day after. Subsequently, that is from three to six months later, it appeared on the legs, and at another time on the feet. The eruption was symmetrical, and first appeared as an erythema which in a few hours became bullous in character followed by the usual signs of localized gangrene. At an early stage of my medical training I was taught to regard these cases as instances of malingering. This I did not question for a number of years, in fact until the case of which I am speaking presented itself. At this time the attending physician assured me had taken every precaution to eliminate all doubt as to its being a self-inflicted eruption. After following the case carefully for some time I was inclined to agree with him, and accordingly reported it as spontaneous gangrene of the skin.

During the past year two other cases have presented themselves, in one a photograph was obtained which I here show. In this case the eruption first appeared as an erythema followed by the formation of vesicles which increased in size, were grouped on an elevated base, and presented a well marked picture of herpes. The lesions rapidly coalesced forming a large, irregularly shaped bulla, which ruptured, leaving a dark blue and finally blackish area of gangrenous skin. In a few weeks this disappeared, and finally there appeared an elevated reddish matrix, which resembled keloid. This case occurred at the City Hospital, where she was kept under observation for several months. In further studying the case we observed that former lesions were symmetrically distributed on various parts of the body and that the scars gradually disappeared. The symmetrical distribution was further demonstrated in this case by the appearance of a lesion on the opposite side of the trunk corresponding in position to the origin of the lesion first observed. The second case presented herself at the out-patient department of Lakeside Hospital complaining of a painful eruption on the forearm. Its close resemblance to the preceding cases was readily observed. The lesions went through the same changes, were symmetrically distributed and left disfiguring scars, which increased in size for several months, then remained stationary and finally, that is in the course of the year, gradually began to subside. She was admitted to the hospital ward and a special watch was ordered to enable us to ascertain whether or not it was due to escharotics or other injury self-inflicted. Soon after entering the hospital she developed what appeared to be epilepsy, although the attending neurologist was in doubt as to its real nature. The epileptic seizures were of frequent occurrence and at this time the cutaneous manifestations rapidly subsided and no new lesions have since appeared. The influence of suggestion was tried, and although only partially successful a slight erythema appeared as a result of the assurance that she might expect an outbreak on a certain spot similar to those she had already experienced.

In these cases all were females, between the ages of 15 and 20. All were apparently well nourished, well developed, and all were of an unmistakably neurasthenic type. From a careful study of these cases I am of opinion that they belong to a well defined type which has been ably defined in the admirable paper to which we have just listened.

I regret, however, that Dr. Wendt allowed his patient to absent herself during which time an opportunity for applying escharotic substances was afforded. This in my opinion weakens the evidence he has presented. Personally I feel

indebted to Dr. Wende for this careful record which I regard as a valuable contribution to the science of dermatology.

DR. JOSEPH ZEISLER: It seems to me that Dr. Bowen has fully established the relationship of the eruptions which he described to the preceding vaccination, and none of us would doubt that vaccination very frequently gives the first impulse to eruptions of this kind. He has very wisely put the title "dermatitis herpetiformis" with a question mark following it, in parenthesis, for there exists a danger that this all-embracing title might be used to throw into it anything of a doubtful nature. Inasmuch as I belong to those who look upon dermatitis herpetiformis as a well-defined clinical entity, I should wish to have that title reserved for such cases as clearly fall under the clinical description of that disease.

DR. PUSEY: The case reported by me as a case of dermatitis herpetiformis following vaccination, to which Dr. Bowen has referred in his paper, was not published without due consideration as to the possibility of its being a case of persistent impetigo or local infection of some sort. At the time that I published it, I believed it was the first case of dermatitis herpetiformis on record which would bear close scrutiny and satisfy all the demands of a diagnosis of that disease. Dr. Dyer had published a report of a case a few months before which seemed to me to fall short of the demands of a diagnosis of dermatitis herpetiformis, in that the case had persisted only a few months and the possibility of local infection was not to my mind satisfactorily excluded. In my case the diagnosis was made upon the peculiar character of the eruption, the pronounced subjective symptoms, the chronicity, and the absence of any evidence of contagion. The eruption was widely distributed, involving most markedly the extremities, symmetrical, and consisted of lesions, varying in size from minute vesicles up to large tense bullæ and occurring in roundish patches or circinate figures. New lesions would be preceded by burning and tingling and the appearance of an erythematous patch on which the vesicles and bullæ would rapidly develop. The lesions contained serum and they did not become purulent except as a result of secondary infection. The subjective symptoms accompanying the eruption were pronounced. The pruritus was not very marked, but there was in its stead tingling and burning which was sufficient to destroy the rest and comfort of the patient during the development of an attack. The disease had persisted four years at the time it came into my hands without having shown any tendency towards recovery. It had its exacerbations and remissions but the patient was practically never free from the eruption. I may add that the condition continued for a couple years after my report, but has gradually improved until now the patient is practically well. The absence of any infectious character in the disease was demonstrated by the history of the patient's surroundings. She was one of a large family of children who lived in the intimate contact of abject poverty and neither at the time of vaccination nor later did any of the children except the patient have a similar disease. The fresh bullæ were sterile.

As to the etiological relationship of vaccination, my case developed, as I remember, within two weeks after vaccination as did most of Dr. Bowen's. I attached no more importance to vaccination than that it was the factor which had disturbed the balance of the patient's health and precipitated the disease. Vaccination was in my opinion simply the exciting cause. My patient was a neurotic girl, thin, wiry, and badly nourished.

DR. I. DYER: In addition to the cases to which Dr. Bowen and Dr. Pusey

have referred, I have reported two supplemental cases, by reference, in 1898. Dr. Allen at that time reported a case in which the eruption bore such close resemblance to a case which I had observed that I detailed that case at some little length. It struck me as having a number of characteristics in common with herpetiform dermatitis. The first case I believe was most strikingly a case which could be relegated to the herpetiform dermatitis group; it was in a little girl of eight years of age, who had been vaccinated some two weeks before I saw her. She presented a general eruption, not only on the extremities, but on the trunk as well.

The symmetry and bilateral symmetry of the eruption suggested directly a neurosis. The lesions were distinctly herpetiform. The case had other evidences which would seem to me to emphasize that diagnosis. The child had to be admitted to the hospital: the lesions almost entirely over the body became hemorrhagic; she had hemorrhages from the nose, mouth and bowels. This was followed by a general condition of depression, associated with albuminuria, which persisted. The child had 40 per cent. of moist albumin in the urine at first, and for three months, during which she remained in bed, deprived of the use of her legs, the albumin gradually diminished. With the albumin diminishing she regained the use of her limbs. During three years I saw her at periods of six weeks to three months apart. I am sure that I saw her in at least six or eight separate and distinct attacks. The absence of the symptom of pruritus of course argues against the diagnosis, but I believe that if it does not belong to the group of herpetiform dermatitis, we ought to have a nomenclature for this class of eruptions. I have seen a number of these cases. With reference to the suggestion that they belong to the erythema multiforme group, I cannot agree, because of the typical grouping of the lesions.

DR. GILCHRIST: It will be of interest, I think, to refer to the cases of Herpes Iris, which occurred at the Johns Hopkins Dispensary and which were thoroughly investigated and recorded by Dr. Lucius Pardee in the Johns Hopkins Bulletin (July, 1898). In one patient, a young girl, eight years of age, the vesicular and bullous lesions appeared soon after vaccination. Directly after inoculation she complained of flushes of heat and chilly sensations. The patient was a very nervous child and anemic. The lesions were distributed chiefly over the extremities, neck and face, and scattered vesicles and bullae were also found on the trunk. The eruption was almost entirely of a vesicular and bullous type and the arrangement of the lesions was in groups, one group being specially characteristic, consisting of a central bulla surrounded by rings of vesicles. A diagnosis of herpes iris was made on account of this special grouping. There were no marked subjective symptoms, but the temperature during the first two weeks rose to 103° F. There was marked constipation, loss of appetite and the tongue was heavily coated. During the third week of the eruption pains were complained of in the great toe joints. There developed later a typical erythema iris patch on the ankle. Dr. Pardee in his résumé said that the sections from the earliest lesions showed "that a considerable emigration of polynuclear leucocytes which became almost immediately disintegrated after leaving the capillaries of the papilla. The latter, as the process extended, became practically filled with nuclear detritus, and by the confluence of neighboring papillae similarly affected the vesicle was found." The vesicle, then, was formed entirely beneath the epidermis. Cultures from the vesicles were sterile. The histological picture would suggest the presence of a toxin circulating in the blood, which

was then set free into the tissue from the papillary capillaries and thus set up acute inflammation and nuclear fragmentation.

DR. GRINDON: I have twice in the last five months seen marked cases of an acute bullous dermatitis in children following upon vaccination within two weeks. The first was a girl of American parentage, about eight years of age; there was a history of a first successful vaccination two weeks prior to the appearance of the eruption. The eruption had existed one week when I saw the case. The lesions consisted of bullæ, most of them about two centimeters in diameter, tense, raised, arranged in a perfectly symmetrical manner. There was a patch beginning at the nucha, extending down along the spine to the buttocks, narrowing a little at the shoulders, and then extending again symmetrically, consisting of a reddened surface bordered all along with these large tense bullæ. I saw the case several times afterwards, and then she passed into the care of a general practitioner who gave a more favorable prognosis than I. That case was no more like *impetigo contagiosa* or *staphylococchia* than it was like smallpox or measles. It was symmetrical, the bullæ large, tense, resistant; it did not form crusts, but the bullæ, after breaking, died rapidly. None became pus-infected. There was the same serpiginous spread as in Dr. Dyer's case.

The second case was that of a boy, otherwise robust, who had had a successful primary vaccination two weeks before. The condition had existed about a month when I saw it. He had a symmetrical bullous dermatitis, arranged in the herpetiform way, that is to say, grouped, covering the trunk, very abundant on the abdomen, covering the extensor aspects of the extremities. Strangely enough, in these two cases the face, hands and feet were free, the trunk being particularly involved. In other respects the cases reminded me very much of those which Dr. Bowen detailed, inasmuch as itching was not a marked feature, and inasmuch as the cases were in children and followed closely after vaccination.

In my experience severe itching has not been a constant feature in dermatitis herpetiformis.

The lesions in these cases were not multiform. They consisted of large bullæ. Otherwise the condition was quite like dermatitis herpetiformis as I have been taught to recognize it. I believe, however, that we are dealing here with a post-vaccinal bullous dermatitis, possessing characteristics which entitle it to specific recognition.

DR. FRANK HUGH MONTGOMERY: Within two weeks I have seen in a member of my own household a typical erythema multiforme following vaccination done by myself. Six others were vaccinated at the same time, with virus from the same source; the vaccination was effective in every case, except one, and with no other complications. The erythema occurred in a maid who had never been vaccinated, and on whom the effect of vaccination was very marked. Then erythema appeared five days after vaccination and lasted about a week. I see no reason why we should not expect a form of toxemia following vaccination, or why that toxemia should not affect the nerve-centres. At the same time, it seems to me that in these cases local infection is responsible for many of the lesions.

The case of the girl who suffered amputation of the finger, referred to by Dr. Hyde, was kept under strict observation in the hospital. It was not until the arm was encased in a fixed dressing that we got any results from treatment.

Another case occurred in the same institution about a year later. This girl

was watched ten days by two Catholic sisters chosen for the purpose. The "gangrene" continued. It was only after the fixed dressing was applied that we demonstrated the nature of her difficulty. There is, as has just been observed, no limit to which these hysterical girls will not go.

DR. W. A. HARDAWAY: I am satisfied from my own experience that there is a distinct bullous eruption occurring apparently in connection with vaccination. It has always suggested to me a dermatitis herpetiformis, a trouble lasting sometimes weeks and sometimes months, but with almost invariably a better prognosis. It occurs within the first few weeks following vaccination, and has been a matter of repeated observation in my experience. I have just at present a case of that sort; the eruption is distinctly bullous; does not suggest impetigo contagiosa in the least, and occurs mostly on the extremities.

DR. H. W. STELWAGON: I would like to refer to a case which came under my observation some time ago. I am convinced myself that these eruptions are really due to toxins. I question very much whether vaccination is the important factor. These eruptions doubtless may have their start from an injury of some kind, and I believe whether it be vaccination, or any other break in continuity, we open up the skin tissue, and give an opportunity for some peculiar infection to take place.

In the case to which I wish to refer the eruption was not distributed in the way in which it has been described in these several cases. It was limited to the neck, especially to the folds of the neck, to the flexors of the elbows, to the popliteal spaces, and to the genito-urinary regions. The lesions were small to large, pea sized; a few as large as cherries. They were not purulent; while they were in close proximity there was no special grouping, nor were there subjective symptoms beyond the feelings of tenderness and soreness. The eruption was distinctly symmetric, and fresh outbreaks recurred at irregular intervals, the skin being rarely entirely free, several or more lesions usually being always present. The eruption was rather sharply limited to these regions. The patient was a boy of probably five years. There was no permanent scarring or pigmentation from the eruptions. So the case has been under observation about two years.

DR. T. C. GILCHRIST: As to the suggestion about making a special group of these cases, it seems to me that the grounds are very insufficient, because the investigations of the cases reported to-day have been very incomplete, being wholly clinical, and I strongly object to the present attempt to make a separate group of them. I would at present, and after Dr. Pardee's investigations, group them under erythema exsudativum multiforme. With reference to the fact that these cases follow vaccination it may be that other organisms or toxins are introduced with the vaccine.

DR. J. T. BOWEN: I have not very much information as to the virus used. In two of the cases the physicians were responsible men who had used the same virus that they had been in the habit of using without ill result; in the other cases the source of the virus used was not known.

Cultures were made in every case, and invariably remained sterile, except in one case, where the staphylococcus aureus was cultivated.

As to the eruptions occurring in special years, we have not much evidence as yet. These cases run over five years, from 1895 to 1899.

With regard to treatment, a great many different things were tried, and I took much interest in it at the time. The one drug that seemed to produce an effect was quinine. In two or three of these cases quinine did seem to have a

marked influence, given in increasing doses; but at the same time I have no evidence that it is curative or that it really lessened the duration of the disease.

As to the multiformity of this dermatitis, we can say that we have here the vesicular and bullous type. Certain of these five cases developed an erythema in various places.

With reference to the connection with vaccination not having been proved, I took care particularly to describe these cases as "following vaccination." I think that our evidence is insufficient yet to put them into a special group. The most we can do is to report such cases as fully as we can, and leave it to the future to classify them.

DR. WENDE: It may, perhaps, be natural in the absence of proper thought and reflection, to suppose that the condition of the patient first named was self-produced. But how is it possible for one to produce at the same locality, and at the same time, vesicles, bullæ and superficial gangrenous plaques? Leaving the skin entirely out of the question, and looking at this case as an ascending neuritis, we may pass from one nerve to another and travel all the way from the ulna nerve—the first affected—onward and upward to the internal and external cutaneous, median and radial nerves, and, finally, end with the discovery that the anterior and posterior thoracic branches of the spinal nerves were likewise affected—the gangrenous patches clearly appearing on the surface supplied by these same nerves. I do not regard it as credible, no matter how bright the patient may be, that she should deliberately choose these nerves, one after another, as the vehicles of a migration which is, in itself, remarkable.

To produce this condition artificially is entirely out of the question.

As to the suggestion that more precaution might have been taken in connection with the second case, I would say that I omitted to mention in my paper that, following the hypnotic experiment, I put a dressing on my patient which was sealed with sealing-wax, the seal being stamped with a coin—and that the dressing was not disturbed the next day, when I found the group of vesicles present. I neglected further dressing, and the gangrene subsequently formed.

Loss of Hair: A Clinical Study founded on 300 Private Cases.—DR. G. T. JACKSON, New York. This was a study of 300 private cases. After presenting elaborate statistical tables concerning the sex, civil condition, and occupation of his patients; their ages at the commencement of the loss of hair; the regions affected; the diseases of the scalp and the general diseases found; and the family histories of his patients as to baldness, he draws the following conclusions, namely: 1. Loss of hair is far more frequent among men than among women. 2. Neither the unmarried nor the married condition exerts any influence on the hair. 3. Intellectual occupations especially when combined with worry and nerves strain are predisposing if not exciting causes of baldness. 4. Sixty-six per cent. of the cases of loss of hair begin before the thirtieth year of age. If one passes that age without showing signs of loss of hair his chances for keeping his hair are much increased, as is represented by 36, 17, and 9 for the three following decades. 5. In women general thinning of the hair is the most common form, while the receding temple is uncommon. In men the whole top of the head is most often affected, and the receding temple is very common. 6. The great predisposing cause of loss of hair is heredity, 132 of the 300 cases showing a well marked family history. The influence of heredity is shown in sex, in most of the women who lose their hair showing a well marked history

on the maternal side: the men showing it on the paternal side. Next to heredity all disorders of the general nutrition of the body are predisposing causes. The greatest exciting cause of loss of hair is dandruff, a term used to include seborrhea sicca, pityriasis, seborrheal eczema or dermatitis, $72\frac{2}{3}$ per cent. The evil influence of dandruff is greatest in those with a bad family history of loss of hair.

As to *treatment*, the best drugs are sulphur, resorcin, and the mercurials in the order in which they are named. The only stimulant to the hair worth mentioning is massage, and this should not be employed until the dandruff is checked.

DISCUSSION.

DR. A. RAVOGLI: The highly scientific remarks of Dr. Jackson have recalled to my mind some cases of loss of hair, which I have had occasion to observe in my practice. The principal causes of the loss of hair have been seborrhea in all its varieties, more frequently dry seborrhea, more rarely seborrhea fluens and in some cases the hyperidrosis. In cases of hyperidrosis, which could not be checked, the hair has fallen off in the same way as in seborrhea. In some cases I have found the bacillus seborrhea (Bizzozero) in large quantities. For this reason I have often used solutions of corrosive sublimate from 1 to 200 in alcohol, with some camphorated water, in several cases with beneficial results. In cases of seborrhea accompanied with itching of the scalp it has diminished the annoying itching sensation.

In cases of seborrhea fluens and of hyperidrosis I am using now a mixture with a base of formaldehyde in the following proportions:

R	Formaldehyde .....	.5i—ii
	Glycerin .....	.5ii
	Aq. Coloniens .	} aa.....
	Alcohol rect.	
	M.	.5iii

I have at present two cases of hyperidrosis of the scalp under observation, the excessive perspiration has diminished a great deal and the loss of hair has been considerably reduced.

DR. DYER: In my treatment of the scalp I make it a rule to tell my patients to stop using the brush, because they will usually reinfect the brush. When the scalp is free of the dandruff I let them get a new brush, and in that way prevent the recurrence.

DR. J. N. HYDE: I hope that this discussion will not close before we hear from our Boston contingent. My impression is that they have reported from that city more cases of alopecia than any other district in this country from which we receive statistics. This is not because there are more people in Boston who suffer from this trouble, but because there are so many people who think it worth while to consult Dr. White and his colleagues.

I am sorry to differ with others respecting the hereditary factor in this disease. I am not here to deny that in certain exceptional cases hereditary influence may produce baldness. But I had an object lesson once, which I presume some of you also have had. When I visited the south coast of Africa, I saw literally thousands of black men and women, stripped stark naked, using their heavy hair as a protection from the sun. Baldness was unknown among them. Loss of hair upon the temples and the vertex is due to the covering of the hair with the hat in the methods of our modern civilization; and I think the Christ-

church boys whom you see on the streets of London, and who have never worn a hat, are a living illustration of this fact.

DR. JOSEPH ZEISLER: All attempts to attribute cases of baldness to one uniform cause must fail. Any unbiased observer must surely reach the conviction that baldness is produced by a variety of causes in the different instances, and may be due to a complexity of causes in the individual case. None of us will fail to agree that seborrhea is a potent cause in producing baldness.

What has always appeared to me to be the greatest puzzle, and yet perhaps a point which allows of an explanation, is the difference between men and women which we observe. We know thousands of men who become bald very early in life, but we know very few women who become bald to any degree at all. Why do we not observe in women such a total alopecia as we see every day among men? There seem to be a few reasons to be assigned for this difference. Women allow their hair to grow long; we do not. Women do not go to barber-shops; we do; we expose ourselves from early childhood to the many causes of infection that are always present in the barber-shop—a factor which is entirely absent in women.

The point as to the headwear seems to me an important one. Men as a rule wear much heavier hats. I believe that a very large number of men have the habit of wetting their hair every morning with cold water. I do not know any women who do this. So it seems to me that there are a great many things to assign as the cause for the difference.

DR. GILCHRIST: I quite agree with many of the points raised by Dr. Jackson in his excellent paper. I am inclined to the opinion that all cases of alopecia following seborrhea are of parasitic origin. Heredity is distinctly a predisposing cause in a number of cases. I have been able to demonstrate in nearly every one of my own cases a keratosis follicularis. This is seen particularly on bald heads. In all my cases I noticed the hairs were not of regular thickness, but one finds irregular thickening of the hair very frequently associated with seborrhea.

I would like to know if any one has had any experience with grafting, *i. e.*, the method of inserting a portion of hair into a puncture in the scalp? This has been already done by Hodara of Constantinople with success. I have seen many cases of alopecia in negroes and the majority were due to syphilis. Most negro women while dusting wear over the scalp a cloth which is fastened tightly along the margin of the scalp and as a result in many cases a linear alopecia follows where the tight band has been.

I do not agree with the statement that dandruff cannot be cured. I have seen cases cured by persistent treatment. Massage I believe is very good. In my opinion brushes are a great factor in spreading the disease. Fairly frequent washing should be done, for we all know that neither the pubic hair nor the hair under the axilla has ever suffered from frequent and daily washings.

DR. HARDAWAY: Since the discontinuance of the former almost universal habit of oiling the hair, alopecia appears to be more prevalent. It seems to me that by the judicious use of oil baldness might be avoided in some cases.

DR. SHERWELL: I have heard Dr. Jackson's paper with great interest, but cannot accept all his conclusions absolutely. I think heredity has a great influence independently of any transmitted condition, as to dandruff, etc., etc. I think again that one of the chief reasons of the relatively less frequency of alopecia in the female, is the decidedly better and deeper soil so to speak in the scalp of that sex; we know that the "pannus adiposus" is much more marked

in women than in men, that condition obtains on the scalp as well as elsewhere on the body, and we know as well that the hair follicles of the scalp are very deep extending into that tissue and consequently the hair bulb is less crowded as it were. Another point is significant to me, that is the markedly less number of hairs in the female, as contrasted with the male scalp. Ninety thousand as against one hundred and ten—twenty thousand.

The judicious planting of corn would seem to be a parallel, planted in rows for grain and larger growth, broadcast for fodder.

I do most certainly believe that seborrheas, and the lighter forms of that trouble we call dandruff, can be cured, and absolutely, though I have the greatest respect for the Doctor's opinion.

I believe, as does he, that judicious oiling of the scalp is a good thing in some cases. In reference to a remark on the customs of the bareheaded African races (by another gentleman) I would say that the "Fuzzy Wuzzies" and Abyssinians, use as a daily head dress a lump of sheep, or beef tallow; I believe a bald Abyssinian is practically unknown.

DR. JOSEPH GRINDON: A chief factor in accounting for the prevalence of baldness in the male is the presence of an evolutionary tendency. Such tendencies are more evident in the male than in the female, the latter being more an exponent of conservatism.

As to the use of soap and water, I must say that it is my opinion that a daily good wetting of the scalp is one of the best things to preserve the hair.

DR. HENRY W. STELWAGON: I entirely agree with the reader of the paper that heredity is a factor in alopecia. There are, of course, a number of factors, including a diseased general condition—not necessarily a fever—chronic disturbance of nutrition, and so on. Chronic neurasthenia is also an important influential cause in women. Seborrhea is the most important causative local condition.

As to the barber-shop, or the "hairdresser," which is essentially the same, according to my own observation, this is frequented by many women as often as it is by men. I believe that in men stiff hats exert a very material influence, and it seems to me a thoroughly rational conclusion, as the hat certainly limits or retards the circulation of the parts, especially of the temporal region.

With regard to treatment, stimulants of course constitute our mainstay, but massage is an excellent measure. Electricity, the faradic brush and the static crown, too, are in my experience of value in the treatment of these cases.

DR. GEORGE THOMAS JACKSON: I did not, of course, intend to cover the whole field of treatment, although I have tried many experiments, some of which have been detailed in my paper.

I do not doubt at all but what you can relieve dandruff for a long time, but it is bound to come back. The hyperidrosis of the scalp I have seen often in loss of hair, and regard it as one cause of baldness.

In regard to heredity, I think there is no doubt that it is a predisposing cause, though not necessarily the determining cause. Women's hats at the present time are pretty heavy, but you will notice that women go without hats during the summer time. But women are beginning to go to hair-dressing establishments, and thus are laying themselves open to the same injurious results to their hair as men who visit barber-shops.

I have seen women just as bald as men. Of course the baldness was concealed by false hair, so that it could not be observed. The reason women do not become bald so often as men is partly because they have not gone to barber-

shops so much in the past, and because their scalp is differently made up: in the woman there is always a cushion of fat between the scalp and the skull, while in a man's head this cushion is wanting and the nutrition is not so good.

In a recent paper I lay stress upon the fact that the young men of the present day have forgotten their father's instructions as to oiling the scalp. If they used oils more freely they would often avoid baldness.

An Unusual Phenomenon of Syphilis: Othematoma.—By DR. JOSEPH ZEISLER, Chicago. Othematoma consists in a rather suddenly appearing effusion of blood between the cartilage of the auricle and the perichondrium, separating this latter from the former. It is situated on the upper half of the anterior aspect of the organ, and the swelling is considerable. The chief occurrence of othematoma after traumatism is well established. Steinbrugge is even inclined to attribute it to long-forgotten histories. The writer carefully searched the authorities as to the possible connection of othematoma with syphilis, and the only reference he could find to it was by Bouvier, in 1889, see *Archiv for Dermatology and Syphilis*, Vol. XX., 1890. Dr. Zeisler's attention was called to this possibility by the following case. Dr. X., about 40 years old, had a small wart-like lesion on his right thumb, which was removed by excision and cauterization with nitric acid. The glands of the axilla became much enlarged. Six weeks after the operation on the thumb, a generalized, copious roseola made its appearance. Mercurial injections, inunctions, etc., were given. About a year later an othematoma appeared on the right auricle. Under a liberal administration of iodide of potassium the othematoma promptly disappeared, never to return again. The most natural explanation of the case is on the basis of perichondritis due to syphilis.

DR. AUGUSTUS RAVOGLI: I have listened with a great deal of interest to Dr. Zeisler's instructive and scientific paper. I remember when I was interne in the insane asylum in Rome to have had occasion to see two cases of othematoma. One was in an idiot, and another in a man affected with melancholia. In one case the blood effusion was in the auriculus occupying the helix and the anthelix, the oblong fossa having entirely disappeared. The auricle had lost its shape, bulging out in the shape of a round tumor of a red bluish color, full of blood. In the other case the othematoma was in the inferior portion of the auricle affecting the concha and the lobes of the ear. The condition of the patient's mind was such that they did not complain of any pain, nor of any subjective symptom.

I have never thought that syphilis can directly produce the othematoma, but that syphilis may be a predisposing cause to this affection. I have always had the opinion that othematoma, being a hemorrhage between the skin and the cartilage of the auricle, was due to arteriosclerosis. Syphilis affects the tunics of the blood vessels and is in consequence one of the most effective causes of arteriosclerosis. It may be that syphilis remains simply a mediate cause of othematoma, but not as the immediate cause. In othematoma there is not any syphilitic appearance, it is an interstitial blood effusion, resulting from the breaking of the blood vessels.

Iodide of potassium is used in this affection, as the speaker has referred.

A Case of Brocq's "Erythrodermie Pityriasique en Plaques Disseminees" was reported by Dr. J. C. White, of Boston. The patient was a healthy Irishman, with a negative family history, who about twelve years ago noticed red

spots of considerable size on his lower leg, which disappeared in the Spring, and reappeared each Autumn, invading more and more the general surface, until the entire surface was almost covered. They showed themselves every year at the beginning of cold weather, remained unchanged throughout the winter, and vanished in April. They had never given rise to any subjective symptoms. On inspection his face and neck were largely occupied by bright red areas of irregularly circular outline, varying in size from one-half inch to two inches in diameter. They were mostly smooth, not at all elevated even at the margin, and were not thicker than the normal skin.

Another case was seen about the same time by Dr. Charles J. White, in a young German aged 26. The two cases bore a strong resemblance to each other in the general appearances, but were far from identical, the second one covering much larger individual areas uniformly and being more scaly, as in Brocq's case. It also lacked the peculiar brownish tint of the first case.

DR. SIGMUND POLLITZER: I quite agree with the reader of the paper that the case which he has described seems to bear but little resemblance to parakeratosis variegata. In the cases of the latter disease which I saw in Hamburg, there was very little noticeable scaling, and the broad flat slightly elevated papules were scattered pretty much over the whole integument, so that the entire surface was cut up into small areas of normal skin, by these papules—and their connecting bridges. The whole appearance suggested rather an unusual form of lichen planus, and that was the tentative diagnosis which Besnier had made in one of the cases which we later saw in Hamburg. From the description conveyed in the term lichen planus, it is evident that the disease in question bears very little resemblance to the disease which Dr. White has presented to us this evening.

The Prophylaxis and Control of Leprosy in This Country.—By DR. PRINCE A. MORROW, New York: The reader referred to the growing likelihood of contagion from our recently acquired possessions in the Philippines and Hawaii, and the necessity for national action in order to prevent the spread of the disease. He suggested the employment of skilled experts as quarantine inspectors. He deprecated the mediæval conception of the horror and virulence of the disease, which is now known to be no more contagious than tuberculosis. Isolation or segregation undoubtedly are the most effective means known to sanitary science for the control of this and other contagious diseases. Homes or asylums with suitable hygienic surroundings should be provided by the National government for the care and maintenance of lepers. Such asylums should be made comfortable and attractive and arranged with especial adaptation to the requirements and peculiar needs of its inmates. In view of the chronicity of the disease, lepers should not be condemned to close confinement in inactivity, but should be provided with interests, means of employment and recreation. As a large proportion of lepers are able to engage in some kind of industry, such institutions might be made partly or wholly self-sustaining from the proceeds of these industries.

DR. J. C. WHITE: We are greatly indebted to Dr. Morrow for this considerate and temperate exposition with regard to the nature of leprosy. I think the more of such papers we can have given to the public the better. Six years ago this Congress presented a very strong statement of facts and a general consensus of opinion with regard to the duty of the National government; and it has come to naught. I do not think we are likely to accomplish anything with

regard to this disease by any government action in this country; but the more we can do in the way of educating the public with regard to the nature of such diseases the more likely we shall be to get some practical and important results.

I think it will not do for us to fall back upon the belief that because we are civilized we may not have the old medieval plagues revived in our midst. The recent lesson with regard to the bubonic plague shows that these plagues may be revived here or anywhere. It is likely that we are to have a more intimate interchange of populations in the immediate future, and we should have such measures as the reader advocates put in operation; but they never can be put in operation until the public is educated up to such a knowledge with regard to the nature of this disease as the reader has presented to us to-night. I think that the feeling which is growing with regard to the contagious nature of tuberculosis is going to insure us a great reduction in the death-rate from tuberculosis in the future, not by cures but by prevention, and so I think it is going to be with regard to leprosy. The more we sustain such a paper as this, in such an association as this, and give it the high approval it deserves, I think the more likely we are going to accomplish something, first with the profession generally, and then with the public.

DR. ISADORE DYER: I want to thank Dr. Morrow for the excellent review of the condition of leprosy in this country, and also for the exhaustive way in which he has handled the subject. He was kind enough to ask me to furnish him certain facts with regard to leprosy in New Orleans and Louisiana, and he also asked that I take part in the discussion of this paper. I believe that the way in which he has handled the paper admits of no discussion, admits only of agreement; I wish to endorse the views that he has so well expressed.

I disagree with Dr. White in one small particular. I think that the legislation which occurred last year was a direct result of the Berlin Conference; and the fact that the Marine Hospital has already gotten under way with a view to ascertaining the number of lepers in this country is very encouraging. They have issued a circular letter carrying with it a table in which a list of cases is supposed to be supplied by the person to whom the application is made.

The conditions in Louisiana, I believe, in addition to what Dr. Morrow has stated, are largely due, not so much to the apathy on the part of the medical profession, not so much to the lack of desire on the part of those who are interested in leprosy, as it is to the political color of the Board in control. The Home that was first started in Louisiana had every evidence of being successful in dealing with leprosy. The law is explicit and comprehensive in its details, but the Board as it is at present constituted is opposed to the spending of any amount of money in the attempt at cure of lepers, who are looked upon as incurable, and are simply sent to the present asylum to die. On this account, of course, the leper is unwilling to go, and the physician with a conscience is unwilling to have him sent. I believe the Marine Hospital service has started at the work in the right way. When the number of lepers has been ascertained, I believe there should be a National asylum either under the direction of the Marine Hospital service, or some other service created by the National government.

DR. J. N. HYDE: I want to thank Dr. Morrow for his interesting paper, and to say that I am fully in accord with him respecting his suggestions. I could wish for myself that every one were as considerate of the work that I did six years ago as he has been. If there were errors in that work, they were not errors which were the result of carelessness on my part. It will be remembered that the theme allotted to me was leprosy in North America. The figures that

I presented to the Congress resulted from correspondence relative to the number of lepers in Cuba and other West India islands, Central America and Hawaii; and I find that since that date the figures that I gave have been tolerably well established, as well in Central America as in British Columbia. This work was the fruit of a great deal of correspondence, and also of a careful collation of all the published reports with regard to leprosy in this country. I am glad that in connection with what the reader said of my contribution six years ago, he was frank enough to admit that nobody knew how many lepers there were in any country. Much of our information on this subject is founded upon untrustworthy data.

DR. W. T. CORLETT: Since we have set about settling the affairs of foreign lands and adopting various leprous communities it is expedient that we guard against the invasion of this loathsome disease. I wish therefore to add a word expressing my appreciation of Dr. Morrow's paper. As pointed out by the writer few medical men have had the opportunity of seeing cases of leprosy, and the errors of diagnosis one sometimes encounters is liable to give rise to much injustice and misery. Two years ago there appeared in some of the daily papers of Ohio a description of a leper colony or family which existed in the State. A medical report of these cases induced me to investigate the disease in question. There was found a family living under the most rigid rules of quarantine, public sentiment had forbade them associating with others, and the town authorities had excluded the children from school. Although they presented a striking picture which might readily be mistaken for leprosy, yet after careful consideration I believe the disease to be a peculiar instance of syringomyelia.

While there may be a difference of opinion as to the exact method of propagating the disease, my own experience does not tend to look upon leprosy as the dangerous disease which newspaper articles would lead us to believe. During various visits at the Hôpital St. Louis in Paris, I have usually seen several lepers in the general wards of the hospital. The same is true of Vienna and Hamburg, and to a less extent, London. I know of no instance on record in which the disease has been communicated from patients thus confined. I do believe, however, that we are exposed to the danger of acquiring leprosy from the Island of Cuba. Some years ago while in Havana I took occasion to visit the Saint Lazare Hospital in Havana which is not, strictly speaking, a hospital, but an asylum where lepers may go, although their remaining is entirely voluntary. There were sixty-seven cases of leprosy mostly far advanced. While in the city it was estimated fully two hundred other cases existed. Our troops stationed in this community are liable to infection and in this way the disease may be brought to our immediate shores. Therefore steps should be taken by the government to exclude as far as possible the danger which threatens us. I am in accord with the writer and believe this communication both sound and timely.

DR. JOSEPH ZEISLER: Only a few words to illustrate the difficulty of arriving at proper statistics. I have in the last few years observed three cases of lepra in Chicago, none of whom have been officially taken care of. The first case came into the clinic at the Northwestern University Medical School; the case was recognized and placed in the county hospital, where the patient remained and died within a year. The second case was brought to my office in Chicago for diagnosis. The diagnosis of leprosy was made. I was very anxious to show that case at a medical society in Chicago, and two days later went out

to his house, and saw him there, and made arrangements to bring him to the society. He backed out, however, and I have never seen him since. The third case was brought to my office by the agent of a life insurance company. I very frankly told the agent of the company what I thought about the case, and also told the patient. I learned that he had lived for a long time in New Orleans, and I could trace his leprosy to that source. This patient was a man who enjoyed a very excellent position in Chicago, was the Manager of a large business institution, and was naturally very anxious to have his disease concealed. I did not feel that I had any right to act the part of a detective in his case. He remained under my personal care for some time, then I lost track of him and within the last year I only have had telephonic communication with him. What could I have done in a State which has absolutely no provision for such poor unfortunates?

All this may serve as an illustration that many cases do not come to public notice. And my own observations have not entered into our statistics because I have been remiss in making reports. I am sure that we have more lepers in the United States than the public has any idea of.

The Frequency of Parasitic Diseases of the Skin and Measures Advisable for Limiting Their Spread. —By DR. W. T. CORBETT, Cleveland.

DR. M. B. HARTZELL: I do not think it is sufficiently recognized how often or how apt the tinea is to be contracted from domestic animals. I have in mind the cases of two farmers whom I saw with very marked parasitic folliculitis which they said they had contracted from diseased calves. One of the farmers was careful enough to bring me the ear of one of the calves. Examination of this ear showed the ring-worm fungus. From that same neighborhood there were perhaps half a dozen cases of this character, all of which had been contracted in the same way.

DR. SHERWELL: I have seen a large number of favus cases, having had at one time over forty cases under treatment at one time, immigrant cases, transferred at the time of burning of the buildings at Ellis Island, N. Y. Fortunately, I think, favus does not seem to be nearly as contagious as the ring-worm parasite. Curiously enough nearly all the cases I have seen apart from those imported from foreign countries, as Russia, Italy, etc., have been contracted from the lower animals, mice, rats and dogs. I had a series of five such at one time derived originally from field mice, around a country villa. The pet dog had caught and played with the bodies of some of these, had acquired the disease, and gave it to the family. The dog was free to all rooms, bed-rooms, etc., and one of the young ladies had acquired the disease on her arm, evidently by fondling the creature when her arms were bare.

A curious feature in the cases of these little rodents was that they all or nearly all had the disease on the head, and from the irritation caused by presence of the parasite, had so scratched, and rubbed themselves in that region, that they had penetrated and worn away the calvarium in many instances, so that the parasitic growth was absolutely affecting the brain. The people in the families, for I have had another experience is another family (living scores of miles apart from the first mentioned), and of exactly the same history, called them "crazy mice," and judging from their descriptions they well deserved the name. They could be and often were caught by hand. As a last statement

¹See JOURNAL, July, 1900.

I cannot now recall a single case of favus conveyed by one human being to another.

DR. J. C. WHITE: I think the reader did not mention laundries as one of the great sources of distribution of parasitic disease. There have been a large number of cases among the students at Cambridge of vegetable parasitic disease around the pubic and axillary spaces. Many of these cases are doubtless transmitted from one person to another by an interchange of sweaters, clothing, etc. Men who are very careful never to interchange towels, sponges, or anything of the sort, have yet contracted the disease, and by tracing certain cases from one person to another who have a common laundry I have been led to believe that the laundry is a material agency in the spreading of the disease there among the students. The clothes are taken and put together in a pile in the laundries, and are emptied into one receptacle. To be sure they are put in boiling water, but that immediately reduces the temperature so low that it does not kill these organisms. Again, in ironing these clothes, they are ironed while they are somewhat wet, and the germs are not necessarily destroyed.

DR. JOSEPH ZEISLER: I would like to ask Dr. Hyde if he has observed, as I have, a regular endemic of impetigo staphylogenes in Chicago of late in men who are shaved in the down-town barber-shops?

DR. J. N. HYDE: We have had an interesting group of cases under observation belonging to the category to which Dr. Zeisler has referred. Some of them have come from shops where men were working together. One or two cases occurred in family groups; and I showed Dr. Montgomery not long ago a case in a woman where the disease had spread over the forehead. In one case ring-worm was found where we least suspected it, and in several others we have found parasitic organisms.

DR. H. G. KLOTZ: I desire to add Italy to the countries from which favus frequently comes, as I think the reader did not mention that country. In my own experience as in that of other observers the cases of favus in native individuals are not so rare any longer.

In connection with what was said as to laundries, I desire to call attention to the bathing establishments, and particularly to the bathing suits and towels in bathing houses, as a frequent source of infection.

In the face of the statements made by the reader of the paper in regard to the frequency of *Tinea versicolor* absolutely and in comparison with *Tinea Tricophytina* and *Favus*, and of his references to the statistics of our Association, I cannot help calling attention to some of the fallacies of these statistics. Numbers like those of varicellæ and morbelli, when we find reported in one year from New York thirty-eight cases of the former and ten of the latter, are obviously of no value at all and could very properly be entirely omitted from the list. But in the instance of *Tinea versicolor* it is certainly of much more frequent occurrence than *Tinea Tricophyton* and much more common than the statistics of Dr. Corlett or of the Association show. As the affection causes but little trouble, undoubtedly only a small percentage of those affected come to the knowledge of the dermatologists or of a physician at all. A certain percentage of those reported may be found accidentally only, on patients originally applying for some other skin trouble. A comparatively small number only are of sufficiently sensitive feelings to make some effort to get rid of the blemish, but these patients exactly repeatedly will apply for treatment at the same or more probably some different dispensary and so swell the number of the cases actually seen by dermatologists.

While duly acknowledging the value of such statistics in some respects, in general they do not indicate the actual frequency of diseases, and we cannot in all instances draw positive conclusions from them.

DR. T. C. GILCHRIST: In connection with this subject I would like to refer to a case of trichophytosis which appeared in a man of 40. The eruption was on the right leg, and formed a patch about two silver dollars in size, dull, reddish, infiltrated, rather painful, and covered with a number of small pustules. There were some, more superficial scattered lesions on the other portions of the leg and on the fore-arms. The original large patch which was of three months' duration reminded me of the lesion which I had produced experimentally by inoculating a man's arm with a pure culture from a case of *tinea barbæ*, and on account of its similarity I made a diagnosis of trichophytosis. Smears from the pustules on the man's leg showed the presence of mycelium and spores. I took cultures from five of the pustules, three of them were sterile, and two gave the pure culture of the large-spored ring-worm fungus. (Two culture tubes were passed round among the members.) I mention this case as one of considerable interest because the smears and cultures confirmed the diagnosis so beautifully. It was rather difficult in some of the pustules to find the spores, but they were more easily found by decolorizing with liquor potassæ, or, better still, by staining with Gram's stain.

With reference to the favus, I came across an interesting case in a child who had a patch on the right buttock about the size of a dime. It appeared like a dried sulphur yellow colored crust. On examining the teased crust soaked in liquor potassæ the fungus was easily demonstrated. Cultures also from the crust were pure. The favus had been produced by a scratch with a nail which was projecting from a form at school.

DR. M. B. HARTZELL: Lesions which clinically are indistinguishable from those of impetigo contagiosa may be due to the ring-worm fungus. A number of cases of that kind have been reported. There are probably two kinds of impetigo contagiosa, one due to an organism resembling the pus coccus, and the other due to the ring-worm fungus.

DR. GROVER WENDE: I wish to follow this admirable paper with my experience in connection with an unusual clinical form of impetigo contagiosa. The infection originated in a barber shop. It differed from the usual form of impetigo by commencing as a bulla, which at times was tense and at other times flaccid. The periphery gradually developed and resolution took place at the center, forming imperfect circles. Again, several of these quasi circles would coalesce and constitute gyrate figures.

From the data gathered, while working up the bacteriological features of the disease, it appears that at least 50 per cent. of these showed ring lesions, the infection being due to the manipulation of the barber. Another unusual feature was that this epidemic was almost wholly limited to adults. In one of the shops which became generators of this epidemic a source of disease was discovered, which may be characterized as unique. I found a man having active lesions upon his hands, who so far as the proprietor knew, had infected every regular customer he had served for a week. Of course there were also a number of transients of whose experience we know nothing—habitués of the shop were invariably affected.

The lesions on the hands of the barber to whom I have referred were, at first, large bullæ; subsequently a number of rings formed.

DR. H. W. STELWAGON: In my experience the condition described by these gentlemen has been rather common in Philadelphia in the last two or three years.

I have seen probably 8 or 10 private cases in the course of a year, in adults; many of the lesions of course were of the simple impetigo contagiosa type.

I believe that Dr. White is entirely correct in suspecting the laundry of being an important cause in the conveyance of certain skin diseases. I recall some years ago an epidemic in a hospital in Philadelphia in which there are from 18 to 20 residents. For a period of two years the residents were affected by *tinea cruris* and occasional patches upon the face. The only common source of contagion that we could suspect was the laundry.

DR. W. T. CORLETT: It had never occurred to me that danger from infection lurked in laundried underclothing, believing as I did that all articles were boiled in the process of laundering. As pointed out by Dr. White, however, I can readily understand how parasitic diseases may thus be communicated. Especially is this the case when articles are not thoroughly boiled. I have from time to time encountered ring-worm in cleanly people in whom I have been unable to account for the disease in any way, as when other members of the family were free, or when they had not to their knowledge come in contact with the disease in others. It is possible that such cases may have been contracted from underclothing which had been contaminated at the laundry. The class of cases cited by Drs. Zeisler, Hyde and Wende, I believe to be very important. Formerly I regarded them as belonging to the ring-worm family, thinking that the fungus at first set up a certain amount of superficial inflammation resulting in the formation of blisters, and blebs, before it penetrated to more deep structures, such as the follicles and hair. Our investigations at Lakeside Hospital relative to the bullous eruptions which were met with so frequently among the troops who returned from the tropics, led us to believe that these eruptions were identical with impetigo. In several instances, members of the same household have contracted eruptions from each other which clinically presented an appearance quite similar. Cultures from these various cases, however, showed them to be etiologically alike, so that of late I have regarded the eruption mentioned in this connection as a variety of impetigo contagiosa. I have found in following such cases that sooner or later the unmistakable objective symptoms of impetigo presented themselves. Further they are quite amenable to treatment, responding readily to mercurial preparations such as the solution of bichloride, 1-2000, or the dilute citrine ointment, or the more agreeable preparation of dilute white precipitate ointment. In concluding I will reiterate that this paper does not pretend to be complete nor to mention all sources of danger, but rather those that have come under the writer's personal observation.

A Report of Two Cases of Persistent Exfoliation of the Lips.¹—DR. H. W. STELWAGON, Philadelphia.

DR. M. B. HARTZELL: I have seen two cases which were very much like the cases reported by Dr. Stelwagon; one of them was in a middle-aged woman who was otherwise in perfect health. The disease was confined to the lower lip, which was constantly exfoliating, the mucous membrane coming away in large flakes. That patient, although I first saw her three or four years ago, I regret to say is still under observation. No sort of treatment has seemed to be of the slightest use.

The second case occurred in a man of 25 or 30 years of age. Acting upon a suggestion which I saw somewhere, that some of these cases were perhaps due

¹See JOURNAL, June, 1900.

to an affection of the teeth, the patient was given a mouth-wash of chlorate of potash, and within ten days his lips were perfectly well; I then lost sight of him. In the case of the woman I tried the mouth-wash, but I fear it was not faithfully used. In the case of the man, however, the effect was immediate and all that could be desired.

DR. J. N. HYDE: I have seen two cases that were of especial interest to me. The first was that of a young woman who came to me with lips in precisely the condition which the reader has described. She was placed under treatment, but it did not prove availing. After a few months I had a letter from her mother stating that she was obliged to suspend the treatment owing to the ill-health of the patient, and I have subsequently learned that she died of consumption. This seemed to me a form of tuberculosis of the skin, affecting particularly the lip. That it has no relation whatever with lupus of the lips is shown by contrast with another case I have seen within the last few months, a case of lupus erythematosus of the lips, the two exhibiting no symptoms in common.

The second young woman was far feebler and more delicate than the first, who died of tuberculosis. She was a physical degenerate; extremely slender, small, poorly developed, weighing but seventy-five pounds at the then twenty-eighth year of life, and disease affected the lips to a remarkable extent. That it had but small relation to the teeth was shown by the fact that the same affection involved the nipples, the exfoliation occurring in the one region precisely the same as in the other. Neither of these patients was benefited in any way by treatment. I am at a loss to know the nature of this trouble.

DR. P. A. MORROW: I came in too late to hear the description of the cases, but I assume that the typical features were very similar to those presented by a case that I saw a good many years ago, in which there was what I termed a seborrhea of the lower lip, with the formation of a crust, which gradually extended in height until it was perhaps a quarter of an inch in elevation, and which had been treated in a variety of ways. This crust could be detached forcibly, leaving slightly bleeding points; or it could be removed by a softening with oil, or with a bread and milk poultice or any means of this nature. Notwithstanding the patient had been subjected to a variety and combination of treatments, the condition persisted for a great many months. The treatment I employed was, after the crust had been detached, a vigorous application of green soap, which set up considerable irritation, followed by an application of ung. hydrarg. nitratis 2 to 4 drachms to an ounce of zinc oxide ointment. Occasionally, when the lip began to improve, it was painted with tincture of benzoin. There was absolutely no disorder of the teeth that could account for it, as the patient's teeth were in unusually good condition, and well cared for. This case was in a woman over 45 years of age.

The next case I had was at the New York hospital in a woman who had also passed the menopause. The appearance was very similar, with this exception, that the crust did not attain such proportions; there was not such an elevation. I employed practically the same treatment, and she got well. Whether there is any particular advantage in the use of the green soap, previous to the use of the mercury ointment, is a question, but both of the patients recovered.

DR. W. T. CORLETT: It has also been my fortune to see two well-marked cases of scaling of the lips. The first occurred many years ago. The patient was a young boy and I attributed the affection to the habit of moistening the lips with the tongue. I saw the case only once or twice, after which he passed out of observation.

Quite recently a young lady consulted me for a peculiar and persistent scaling of the lips, such as so faithfully described by the essayist. In this case I have endeavored to ascertain the cause, but aside from a general tendency to seborrhea, I find nothing especially bearing on its causation. Her tongue is habitually coated and the bowels have for a long time been constipated. Yet I have not been able to associate it with derangement of the digestive tract. She has also some anomaly of menstruation, for which she was referred to a colleague, who informed me that he did not regard it as an etiological factor of much importance.

A third case might almost be included, or at least allied to this class, which occurred in a nurse at Lakeside Hospital. This, however, differed from the two mentioned in that the lesion consisted of a single fissure in the center of the lower lip. It occurred to me that it might be due to the habit of moistening the fissure with the tongue. The treatment suggested consisted of wearing a dressing applied so as to prevent the stretching of the lip as well as the frequent moistening by the tongue. The paper to me is of great interest, particularly because of the obstinacy with which this affection responds to treatment. Further, I feel indebted to Dr. Stelwagon for the careful record he has given us.

DR. T. C. GILCHRIST: In two cases similar to those reported by Dr. Stelwagon I was able to excise a portion of the lip for purposes of examination. One patient was a man about 40 years old, who had had the trouble every spring for some years. There was also numerous lesions on the inner side of both cheeks and lips. Dr. Stelwagon says that in his case the inside of the mouth was examined and no lesions were found. On stretching the mucous membrane in my cases there were numerous minute yellow patches under the mucous membrane, and on microscopic examination of excised portions it showed the presence of what appeared to be sebaceous glands in the membrane. I have also seen in many milder cases the presence of these enlarged sebaceous glands.

Dr. Fordyce described this condition first as "A peculiar affection of the lips," but he did not mention that it was an affection of the sebaceous glands. Dr. Douglas Montgomery described the lesions in the mouth and proclaimed the presence of sebaceous glands in this mucous membrane of the mouth. I think mention is made in Ziemssen of the presence of these glands in this region. Other investigators in Europe have also described this affection. All these cases, in my opinion, come under one head, and they are an affection of sebaceous glands leading to exfoliation of the lips. I suggest that the disease be called *seborrhea mucosa*.

DR. H. W. STELWAGON: From Dr. Morrow's remarks I should infer that he thought the lips in the cases described by me were very much crusted. This was not the fact. There was no positive crusting; it was more of the nature of an exfoliation and apparently consisted of one or two layers of mucous membrane, so to speak. There was never any fissuring, and there was never any visible sign of inflammation. Except just at the time of final detachment of a film, and then slight and only at the central part to which the film had been clinging the longest; this was, I believe, mechanical in origin.

SECOND DAY, MAY 2, 1900. MORNING SESSION.

GENERAL DISCUSSION.

Malignant Diseases of the Skin: (a) Their Classification and Clinical Features.—By DR. E. B. BRONSON. The import of the epithet malignant as applied to diseases varies according to the circumstances under which it is employed. As most generally used the term implies a rapid, destructive course, tending to a fatal issue. It is thus used to designate certain forms or varieties of a disease of a severe and dangerous type, in contradistinction to other forms of the same disease that pursue a relatively milder or "benigner" course. Thus we have malignant and benign forms of syphilis and tuberculosis. Pernicious cell growths may originate either in the epithelial structures or in the connective tissue. In the one case the resulting disease is carcinoma, in the other sarcoma. All known "malignant" growths pertain to one or the other of these two diseases. An epithelioma, though in the common acceptation of the term a skin cancer, is not necessarily a malignant growth; only potentially so. A promising field for the study of malignancy in diseases of the skin and of the conditions relating to it is found in those diseases that, beginning as an inflammation or simple perversion of growth, end in malignant cancer. The epitheliomas that develop on old syphilitic lesions, on lupus, or from some indifferent local irritation of the skin, are common instances.

(b) Their Etiology and Pathology.—DR. M. B. HARTZELL. Heredity, age, traumatism and long-continued slight irritations have long been considered as predisposing, in greater or less degree, to the occurrence of cancer. While heredity is no longer believed to play the important rule formerly attributed to it, yet it is apparently well settled that cancer is apt to occur in successive generations of some families, due as is now believed, not to the inheritance of the disease, but to an inherited susceptibility. The influence of age upon the appearance of carcinoma is so very evident that it is no longer a matter for debate; in the great majority of cases the patient with cancer is past forty years of age, the exceptions to this rule being in most cases examples of rodent ulcer. Ribbert produced numerous tumors in the abdomen, uterus, diaphragm and pleura of an animal (a rabbit) by allowing free epithelial cells, to diffuse through the peritoneal cavity. Cancer possesses a considerable number of features, clinical and pathological, which suggest the possibility of its being an infection, although other explanations are not absolutely precluded. We may regard it fairly well demonstrated that this neoplasm results from a profound and more or less permanent alteration of the mechanism of cell-division. This alteration may result from long-continued irritation of a mechanical or chemical kind. The immediate causes are therefore multiple. In cases of xeroderma pigmentosum it may be assumed that some inborn defect of the skin exists.

(c) Their Treatment.—By DR. F. J. SHEPHERD of Montreal. As a surgeon who had to treat all kinds of malignant diseases, wherever situated, excision of the growth and the adjacent lymphatic channels and glands seemed the most scientific procedure in the majority of cases. He said that all now believed in the local origin of cancer, and also that whenever found it should be quickly and completely removed. The disease being local, only local treatment was curative. Constitutional treatment was of no avail.

There are two forms of local treatment; removal by knife and removal by caustics. Surgeons favor the former and dermatologists the latter. The weak point in the treatment of malignant disease of the skin by caustics is that it postponed the removal of the neighboring lymphatic tissue and glands. Dr. Shepherd held that there may be malignant disease of the glands and yet they cannot be always told, as in the axilla and submaxillary region. Even the microscope would fail to detect the disease in the glands, the cancer cells in the very early stage being so few and far between. He instanced the magnificent results of the removal of mammary cancer by modern methods of very extensive operations. In Paget's disease of the nipple he advocated removal of the whole breast. In cancer of the lips, scrotum, penis, vulva and whenever the skin was loose, removal by excision was advocated. Certain malignant ulcerations of the skin he admitted might be successfully treated by caustics, especially rodent ulcer and those slow-growing forms of epithelioma situated in regions somewhat removed from glands, as the nose, forehead, temples, cheeks, hands, and where the glands are not early affected. He had successfully employed free curetting and the after application of caustic in such cases. The best caustics were arsenic, chloride of zinc, and caustic potash. Some hold that arsenic has a selective action, that is, an inflammation may be produced which will destroy cancer cells, but not normal tissue. Before employing arsenic the ulceration should be curetted, or the epidermis over it should be destroyed by caustic potash. Several other methods of treatment were alluded to, such as the parenchymatous injections of alcohol, nitrate of silver, chloride of zinc, electrolysis, aniline dyes and the injection of toxins. Coley's treatment is more suited by sarcoma than carcinoma. In sarcoma of the skin early and complete removal was the best treatment if the growth were local. When general some cases have been successfully treated by the injection of a solution of arsenic. The injection of toxins had not proved successful in Dr. Shepherd's hands.

Malignant Diseases of the Skin: (a) Their Classification and Clinical Features.—DR. E. B. BRONSON. (Read by Dr. Jackson.)

(b) Their Etiology and Pathology.—DR. M. B. HARTZELL.

(c) Their Treatment.—DR. F. J. SHEPHERD.

DR. J. C. WHITE: It may be interesting to members of the Association to learn that a large fund has been left by a lady in Boston for the purpose of original investigation as to malignant diseases of the skin. This trust has been assumed by Harvard University, and has been placed in the charge of Dr. J. Collins Warren, Professor of Surgery. I would suggest that the floor of the Society be given to him, in order that he may express his views with regard to this subject.

(By unanimous vote Dr. Warren was asked to favor the Association with an expression of his views on this subject.)

DR. J. C. WARREN: Dr. White has said that the Department of Surgery has been fortunate in receiving a considerable sum of money for the purpose of original research in this domain of pathology. Through the wise forethought of Mrs. Croft (formerly Miss Caroline Brewer), \$100,000 has been placed in the hands of the Surgical Department of Harvard University, the income of which is to be used for this purpose. As you may all know, there are but two or three places at present in which special original investigations are being made in the etiology of cancer. Through the energy of Dr. Roswell Park of New York, Buffalo has

been made one of those places. Dr. Hartzell in his paper has alluded to the work of certain of the European pathologists, namely, Plimmer and Sanfelice, and I think those are the principal places in the world at present where work which is of importance has been going on. In the Harvard Medical School the work has only just begun. The staff to be employed for this purpose was organized only a few months ago, and therefore we have as yet but few results to report. It is a long study, but some new ideas and thoughts have been brought forward recently, and some of them extremely interesting, and suggestive, indicating lines of work which may lead to tangible results; yet I think it is quite uncertain whether we really have made any distinct progress or not. Dr. Hartzell in his paper alluded to the work of San Felice, and to the experimental inoculations with cultures of yeast-cells. Dr. Edward H. Nichols, who is the active worker in our department, has just returned from Europe, and has made of course but a very provisional report of his observations there. He has visited Sanfelice, and Roncali in Naples; he has visited Plimmer; he has also been in Paris. I think the results of his observations on the whole are rather discouraging. He does not feel very enthusiastic about the work of these gentlemen, although he recognizes the very high character of their work, especially that of Sanfelice. The number of actual successful productions of an embolism with the characteristic microscopic appearances of carcinoma by the introduction of this organism was I think exceedingly small. I saw adenoid carcinoma produced by one of Sanfelice's injections, and it was a characteristic growth removed from a dog. I am speaking now without any careful preparation on the subject, and therefore I could not wish to be quoted as making any definite statement as to the character of his work at the present time. I merely wish to say that it is still uncertain whether this new line of thought which we have suggested to us, of the possibility of the production of cancer by the yeast plant is a favorable and encouraging one or not.

Certainly organisms which we find within the cells closely resemble the so-called Plimmer bodies. We have been able to demonstrate quite a large number of these bodies by microscopic staining in our work in the Surgical Laboratory in Harvard. They certainly look like yeast cells, but they may go the way of the many other organisms which have preceded them. I do not wish to say more than to indicate what we are thinking about in this work. It is not necessary for me to repeat to you Dr. Roswell Park's statement. Dr. Gaylord is perhaps more enthusiastic on this subject than we are at the present time.

In regard to the clinical side of the question, I think there is a great deal that is interesting and suggestive to one who sees a large amount of malignant disease, particularly upon the surface of the body. I see a great deal of cancer of the breast, a subject of which I have made a special study, and I see a large number of cases in my practice. I have been struck by the fact that in quite a number of cases inquiry will show that the husband is very likely to have a keratosis senilis, or a more advanced stage of growth upon the skin, and the thought has been forced upon me that this disease may have been communicated from the husband to the wife. In certain cases a chronological study of the progress of the diseases made it seem very suggestive that this may have been the case. I have the feeling, therefore, that it is important that any small growth, whether keratosis or epithelioma, should not be allowed to remain untreated, and that irrespective entirely of the possibility of danger to the individual affected, it should be removed for the benefit of the rest of the family circle.

In regard to the methods of treatment, I as a surgeon lean towards the knife. I have tried all the different methods very carefully, and have gradually come

around to the knife as the best and the most painless method, and also the most likely to cure. I would exclude, of course, those very minute growths which may be destroyed by one touch of the caustic, and will scab and heal in a few days, or a few weeks' time, without suppuration. Of course, that is as simple a method as one could possibly devise; but where caustics involve subsequent suppuration and dressing, I feel convinced that the knife is the most agreeable, the most rapid, and most sure method of treating this disease.

There is one form of cancer of the skin which I would like to call the attention of this association to, upon which I have made a few observations, and that is cancer of the axillary border of the breast. The disease begins upon the axillary fold of the breast; it is in its origin a cutaneous disease, and it has a remarkable resemblance to some of the types of rodent ulcer. It has a pearly border, and a depressed, cicatricial centre. But it finally leads to infection of the breast and axillary glands.

It is my aim and ambition, in Harvard, to develop original research in connection with the Department of Surgery, and it is to be hoped that we may be able to have much greater facilities than we now possess in the way of laboratories and funds to carry on this work.

Endothelioma of the Skin, Developing in the Scar Tissue of Lupus Vulgaris; Angiosarcoma of the Skin.—DR. JOHN A. FORDYCE reported the case of a patient the subject for a number of years of a lupus vulgaris of the forearm.

A nodular growth developed in the scar tissue which followed various operative procedures on the lupus tissue. The tumor was excised and proved microscopically to be an endothelioma probably starting in the perivascular lymph spaces surrounding the smaller vessels.

From the size and appearance of the cells alone as well as from the general confirmation of the cell collections in the connective tissue spaces it would be impossible to differentiate the growth in question from a small celled epithelioma. The grouping of the cells about the dilated blood spaces together with the absence of other possible points of origin enabled a diagnosis of endothelioma to be made.

Although epitheliomas springing from lupus tissues have not infrequently been reported the writer believed the case in question to be a unique one in which an endothelioma has been found in such a connection.

Several instances of angiosarcoma were referred to in which single tumors had been found which were identical in structure with the so-called idiopathic pigmented sarcoma of Kaposi. These growths start from the connective tissue covering of the vessels and are histologically to be differentiated from the true endotheliomas.

To expedite the work of the session Dr. Fordyce volunteered to read his paper on ENDOTHELIOMA AND ANGIOSARCOMA OF THE SKIN by title. The Association then adjourned to an adjoining room, where a lantern-slide exhibit was given, illustrating:

- (a) Some clinical and pathological features of malignant diseases of the skin and affections. DR. J. A. FORDYCE
- (b) Clinical and pathological features of blastomycetous infection of the skin. DRS. J. N. HYDE and F. H. MONTGOMERY
- (c) A few rare diseases of the skin. DR. G. H. FOX

The Etiology and Pathology of Cutaneous Cancer.—DR. A. RAVOGLI, Cincinnati, said that from the greatest antiquity the clinical conception of cancer has been an ulcer, especially of the skin and glands, with exuberant growth of granulations, which when removed has a tendency to relapse, gradually spreading and under marantic conditions causing death. The true etiology was first given by Billroth, who considered as carcinoma only those new growths which result from epithelial production, together with an infiltration in the connective tissues. It is quite natural that the masses of epithelial cells, crowding themselves into the midst of the connective tissues, must produce an irritation which causes a proliferation of the connective tissue corpuscles. These corpuscles, which have the task of providing for the nutrition of the connective tissue fibres, are greatly developed in the embryonic state. In adult life they are very much smaller, but on account of some inflammatory exudation, they return to their embryonic stage, increasing in their volume, their nuclei proliferate, they increase in quantity, producing hypertrophy of the connective tissues, until they reach the form of papillary growths. In carcinoma the presence of sharp epithelial cells crowding down upon the delicate structure of the connective tissue fibres, causes the connective tissue corpuscles to take part in the proliferation: hence carcinoma is a malignant production consisting of masses of epithelial cells imbedded in a connective tissue structure, inflamed and infiltrated.

THIRD DAY, MAY 3. MORNING SESSION.

DISCUSSION ON MALIGNANT DISEASES OF THE SKIN.

(Continued.)

DR. JOHN A. FORDYCE: An important clinical as well as pathological division of cutaneous cancers is that which separates these new growths of epithelium into two groups, in one of which the cells are chiefly of the squamous variety, in the other the small or columnar type of cell. As a rule the squamous celled epithelioma is found about the muco-cutaneous orifices, more readily involves the lymph nodes and is more malignant than the small-celled variety of the disease.

The relative malignancy of these two types of growth is perhaps not so sharply drawn as I at one time supposed.

I have seen squamous celled epitheliomas at a distance from the orifices last for ten years without invading the lymph nodes and lately I have encountered the rodent ulcer type of growth in which the communicating lymph nodes were involved. We are as yet ignorant of the factors which render rodent ulcers a relatively benign affection and the squamous celled epithelioma a more malignant growth.

The superficial seat of rodent ulcers together with the early occurrence of ulceration is supposed by some writers to prevent absorption of the cells by the lymph vessels. The resisting power of the connective tissue which in rodent ulcer early assumes a structure like that met with in scirrhus cancer is looked upon by Unna as an important factor in determining the clinical course of the affection.

Although the new growth of epithelium which we see in rodent ulcer is always made up of small cells which correspond to those in the basal layer of the epidermis or the outer root-sheath of the hair follicle, it is probable that there are

a number of other clinical varieties of small celled skin cancers which are not identical, at least clinically, with rodent ulcer.

DR. J. N. HYDE: I want to thank Dr. Hartzell for his paper. It seems to me to be an admirable contribution to this subject. With reference to the pre-cancerous condition, the only type upon which I think he did not lay stress is the sebaceous, where the face is nearly covered with more or less adherent and greasy scales, reddish-brown in hue, presenting the type of an exaggerated seborrhea sicca of the face, and where we often find a patch upon the back of the hand which is decidedly epitheliomatous in its type.

As to the question of traumatism and cancer, it is a conspicuous fact that the majority of the epitheliomas which the dermatologists see are in site facial or manual. This is very significant, because the possibility of traumatism in these regions is apparent to all.

I am heartily in accord with what Dr. Shepherd said with reference to the local treatment of cancer, and more and more convinced that the results, except in minor cases, produced by the knife are superior to those produced by caustics. Dr. Warren's suggestion that keratosis senilis in men is in cases possibly responsible for carcinoma of the breast in women I should accept only with great reserve.

DR. SHERWELL: I can present nothing new or critical as to Dr. Bronson's good summary, almost as little as to the interesting remarks of Dr. Hartzell, except perhaps this, that in speaking of the keratoses produced by arsenic, he to my mind is not equally mindful of the keratoses removed or lessened by arsenical action. His remarks go to show to my mind that arsenic has a great influence not alone on epithelial, but fibrous tissues as well. I believe this also, and if I may use the word believe in its certain degree of homeopathic action, I cannot however believe, as I have stated before, that it often is the originating cause of cancer.

The meetings of the New York Dermatological Society have been of more than usual interest to me lately in view of the experiences of Drs. Lustgarten and Whitehouse, the former has a case of sarcoma of the skin which he has been treating after Köbner's method with injections of arsenite of sodium, with extraordinarily good effect—the latter a case of apparent non-malignant fibroma. These cases coincide exactly with my experience.

As to Dr. Shepherd's remarks on treatment I would say, that they are very liberal coming from a surgeon who has, and almost necessarily must have, a predilection for the knife, and what would seem (for I deny that they really are) more radical methods. I maintain that by far the larger number of skin cancers can be best treated by curettage, and potential caustics, be that arsenic, acid, nitrate of mercury, zinc chloride or what not—and as I have for many years maintained also the exhibition of arsenical dosage, as prophylactic and inhibitory agent.

What is equally true is this, that in various regions ablation of the diseased tissues (with a wide margin of apparently healthy tissue) would seem for common sense reasons the best plan—as for instance in lip cases frequently; ears, penis almost always. I think, however, per contra that ablations of the breast in cases where the axillary glands are affected are useless operations; to be sure, one gets a beautiful temporary result with I think oftenest recurrence either there or in neighboring tissues. In any case I insist, and presume always shall, on the internal administration of arsenic. I have now some hundreds of cases in which I think I have seen benefit.

DR. GEORGE THOMAS JACKSON: I have had one case of Paget's disease on the

breast of an old virgin. Unfortunately the whole breast was cut off by a country surgeon, who simply threw it away without microscopical examination. I have also seen a case of Paget's disease of the nipple in an elderly man; the first time I ever saw it in a male. It was typically the same thing as Paget's disease in the female. It had not gone on to ulceration.

As to treatment, I have twice had a chance to compare dermatological and surgical methods. In the first case both methods were equally followed by recurrence of the disease. Recently I had a case with a great many epitheliomas on the body and trunk, at least a dozen of all sizes, including an enormous one on the shoulder that was entirely beyond the hope of any caustic treatment. I called in one of the best surgeons in town, and we agreed that he should cut out the enormous one on the shoulder, and that I should use arsenic on a good-sized one on the back. After fifteen months we saw the same gentleman together, and the results of his cutting and of my arsenic treatment were equally good; there was no sign of a return. The patient became ambitious, then, to have some more of them taken off. He was an intelligent man, and he said, "Both your work is very good; the results are the same; but I think, if it is all the same to you, I should rather undergo the knife than to endure the pain of the arsenic, and have that sloughing around for so long a time as I had before."

I think that in the treatment of the small growths the arsenic is all right, but when it comes to large growths the surgical treatment is far better. Of late I have seen some experiments made at the Vanderbilt Clinic with liquid air. Its results are precisely those of any powerful caustic. It seems to me that it is a more painful method than the use of a caustic, and no better in its results. The most brilliant results have been obtained in cavernous nevus.

DR. JOSEPH GRINDON: I think the arsenic treatment for small growths about the face excellent, even in the neighborhood of the eye. Of course, there is a great deal of edema, but that goes down in a short time.

I wish to heartily endorse what Dr. Shepherd said about the good effect of the mixed toxins, which, by the way, contain not only the toxins but the dead bodies of the Fehleisen streptococcus and of the bacillus prodigiosus. In one case seen by me a large sarcoma extended down behind the clavicle. An operation was attempted for its removal, but it was found that the clavicle would have to be disarticulated in order to remove the growth entire. A partial excision was practiced, and the toxin was administered. The growth, which had begun to increase in size, melted away like snow before the summer's sun, and now, after five years, has not returned, the patient being in good condition. The microscopical diagnosis of spindle-celled sarcoma was confirmed by two competent pathologists.

DR. HENRY W. STELWAGON: I would like to add my own support to the caustic treatment of the superficial epitheliomata of the skin, especially by arsenical applications. In many cases the cosmetic results from this method are superior to those from the surgical procedure. While the slough is adherent for some time, this time can be very materially shortened by the use of poultice applications. If these are not applied the sloughing will probably be slow in detaching itself and remain for two or three weeks, but with poulticing the slough will usually come away in the course of a few days.

DR. PUSEY: I have treated a considerable number of superficial epitheliomata by use of the curette and caustics and I wish to add my testimony to the efficacy of these methods. For superficial epitheliomata it leaves in my opinion nothing to be desired. I agree with Dr. Stelwagon that the very cases in which it is

most useful are those about the orifices where it is desirable to save as much tissue as possible. Even in epithelioma of the lip, which Dr. Shepherd treats with the knife after the usual method, I believe that for the superficial forms the use of the curette with a caustic is far better, cosmetically and otherwise.

The contention for radical surgical operations in superficial epitheliomata loses sight of the fact that the superficial epitheliomata do not, except in the rarest cases, involve the contiguous glands, so that ordinarily the danger that the glands are involved is exceedingly remote—less even I believe than the danger of radical operations to the senile patients who present themselves with epitheliomata.

DR. MORROW: I would premise by stating that I have been surprised to hear some of the members refer to the caustic treatment of cancer by arsenical pastes as the Robinson method. While not wishing to detract from Dr. Robinson's efforts to impress upon the profession the value of arsenical pastes, we must all recognize that this method of treatment was developed and perfected by Marsden thirty years ago.

As regards the internal use of arsenic in the treatment of cancer, Dr. Sherwell has been the most active and earnest advocate of its value for a great many years. While not claiming Dr. Sherwell's enthusiastic faith in its efficacy, I have nevertheless been greatly impressed with the admirable results he has obtained. He is entitled to full credit for the exploitation of this method of treatment. Of course, there are different opinions among different observers as to the relative value or the indications for different forms of caustics. As a matter of fact, in my own experience, I almost always use the actual cautery after curetting, but if I do use caustic I prefer, as a rule, the chloride of zinc, which has the advantage of being less painful than the arsenic paste, and producing less edema. In this connection I may state that I have made considerable use of the Ozerny solution in the treatment of cutaneous cancer—employing the arsenical solution in the two strengths which are recommended by Czerny, but I have not been impressed with its curative efficiency. It seemed to have a tendency to act as an irritant, and moreover proved to be exceedingly painful after a few applications. I may say as a clinical point that I have observed, as perhaps others have, that these epitheliomata or carcinomata which have a tendency to fungate are of a very much more malignant type than those characterized by ulceration. I think a clinical distinction may be made between epitheliomas that have a tendency to ulcerate and those which have a tendency to fungate.

I have had one case recently which would seem to show the relative value of caustic treatment and the use of the knife. This patient was operated on four times; the incision was carried wide of the disease, fully half an inch; in one operation the entire upper portion of the sternocleido-mastoid muscle was taken out, nevertheless the disease again returned; but the continuous application of chloride of zinc, simply boring it in the sides and base of this large opening, was followed by an apparent entire destruction of the epitheliomatous structure and complete cicatrization. I have made extensive use in my hospital and private practice of almost every caustic preparation recommended in the treatment of cancer and have no hesitation in giving a decided preference to the zinc-chloride entire, alone or in combination.

DR. AUGUSTUS RAVOGLI: As to the distinction between the carcinomata, we need a simple distinction, one which will give us at the outset an idea of the kind of carcinoma we have to deal with. It makes no difference whether the cells go down in one way or the other, are lobular or tubular, nor is it important whether, histologically, the cells are small cells or squamous. What is interesting for us

is the distinction between the superficial or lobular, and the nodular. In the former we have a true superficial cancer which remains for fifteen years without giving any trouble. When we have the nodular tumor, we have the infiltration of the epithelial cells which comes from the depth; we see that the papillary layer is entirely preserved. There is nothing wrong in the upper portion of the dermis and of the epidermis; but we find an infiltration, underneath, in the deep layers of the dermis, and in the lymphatic spaces. This carcinoma kills a man in two or three years. I remember a man who had carcinoma of the penis. It was no larger than a wart, an amputation of the penis was performed, the wound healed up in a few days, and in about twenty days the patient was able to leave the hospital. Four or five weeks afterward this poor man came and began to show nodules or carcinoma around the groins, and he was entirely covered with these carcinomatous nodules, and died in a short time. This clinical distinction in regard to the carcinomata I regard as very important.

In regard to the treatment, I beg that you will try formalin. I have obtained splendid results in five or six cases. It is used at the full strength of the commercial article—42 per cent. Sometimes, if it is a small carcinoma it is necessary to cocaineize the surface, because it produces a sharp pain. The following day the surface gets red and swollen, and then the carcinomatous surface grows yellowish in color and sloughs off. After two or three applications I have obtained very good results.

In some cases I make a paste of rice powder, oxide of zinc and formalin. I protect the normal skin with a piece of plaster, leaving the carcinomatous surface exposed; then with the spatula I cover this surface with the paste. Two applications have given splendid results, so much so that the carcinoma sloughed off and entirely disappeared.

DR. M. B. HARTZELL: I am fully convinced that long-continued irritation plays, in some cases at least, a very important part in the production of epithelioma. I believe that epithelioma is the product, not of one cause, but of several. I omitted to speak of the well-known results of irritation or injury in the pigmented moles. I believe Unna says that in no instance does malignancy appear in the mole unless it follows an injury or a long-continued irritation.

With regard to the part which the blastomyces plays in the formation of carcinoma, I wish to call attention to the fact that Pellegatti has experimented in staining cultures of blastomyces, and he announces that these differ entirely in their staining properties from the bodies supposed to be blastomyces found in carcinoma. If this should be confirmed, it is a very serious blow to the theory that the bodies found in carcinoma are in fact blastomyces.

I do not think that enough importance is laid upon the fact that such changes in the mechanism of cell division as are found in epithelioma may be produced experimentally by the action of chemical substances. Such pathological mitoses have been produced, not by the pathologists, but by the biologists; and I believe that in this fact will be found very important indications which should be followed up in the consideration of the origin of carcinoma.

As to treatment, I believe that the caustics are not used as often as they should be. I admit that in many instances excision is the most rapid, the least troublesome, and perhaps the most effective method of treatment. But we must reckon with our patients. To propose any operative procedure to many people is to simply drive them away from any method of treatment. To propose excision to timid women or to old men often causes them to defer having anything done. If, however, you tell them that by means of a caustic you can utterly destroy the

growth, in a comparatively painless way, they will submit to this at once, so that you are enabled to destroy the cancer in its very early stages.

A method of treatment of which I am very fond because of its practically painless nature, is the application of caustic potash followed by paragallol, using the potash sufficiently long to destroy the epidermis, and following this with a 40 per cent. paragallol plaster. I have had results from this form of caustic which left nothing to be desired.

DR. FRANCIS JOHN SHEPHERD: I am not convinced at all of the error of my ways by the evidence brought forward. My experience in cases of cancer of the breast which have been treated by the caustic method has been very unfortunate, whereas we all of us know of cases treated by the knife, where there has been no recurrence for 8 or 10 years. In cancer of the lip, I think there is no doubt about the better way of treatment being by the knife. It seems to me that the cosmetic effect is better than by the use of arsenic; arsenic may be of use in some cases, viz., the very superficial growths or those which are disseminated over a large surface of face.

I think we are finding more and more every day that the knife is the best method of treatment in these cases. I never found any trouble in persuading sensible people to undergo the operation. There is in reality very little pain, the ether being the worst part of the operation. I think the objection to such operations is really a survival of an old idea of the painfulness of operations, and I thought it was only in the outlying parts of the country that these traditions survived.

THIRD DAY, THURSDAY, MAY 3.

DR. S. POLLITZER of New York read a paper on **"A Case of Nevus-Cancer; Metastasis; Operation; Cure."**

The patient was 30 years old when a small, slightly pigmented mole on the back about an inch to the left of the 8th dorsal vertebra began to ulcerate. During six years of treatment the ulcer never healed, and finally began to exceed the limits of the original mole. It was then excised, the skin stitched up and the wound healed well, producing a linear scar. Six months later the skin in the neighborhood of the scar became raised, red, glistening over an irregular area about two inches in diameter, and broke down at two points, producing small ulcers. Soon after, the patient consulted the writer. There was then, in addition to the condition described, a small hard round tumor clearly below the skin, and an inch and a half from the edge of the red glistening patch.

The patch, including the scar and a large extent of healthy skin, was excised, the subcutaneous tumor was found within the substance of the trapezius muscle, and the latter was stripped up from its attachments to the spines of the 6th to 12th dorsal vertebra and cut out to an extent that included the tumor. Microscopic examination showed the cutis throughout the red glistening area to be filled with round, oval and irregular tracts of cancer cells, without connection with the surface epithelium. Examination of the tumor in the muscle showed it to be made up of large nests of cancer-cells separated by dense masses of connective tissue which had replaced the muscle fibres.

Six years have elapsed since the operation and the patient is entirely free from any sign of a recurrence.

Cases of nevus-cancer are usually of such striking malignancy that the favor-

able result in this case, in which a metastatic depository had already occurred, makes it worthy of record.

Syphilitic Lesions of the "Wheal" Type.—DR. H. G. KLOTZ, of New York, described an unusual eruption observed during the early period of secondary syphilis, and quoted similar descriptions from Taylor and Langehert. The lesions resemble wheals, except for the absence of itching and other sensory symptoms, and for their long duration. Nevertheless he believes it justifiable to accept the lesions as wheals, especially as the conditions found in the wheal of urticaria by several authors would fully account for the clinical features. Dr. Klotz called attention to the want of actual knowledge in regard to angioneurosis, and mentioned a recent paper by Phillippon which attempts to establish the origin of the so-called angioneurosis from embolism.

DR. JOSEPH ZEISLER said he had never had his attention called to this distinct syphiloderm as an independent form, but he had seen a case much like that described by Dr. Klotz. Dr. James Nevins Hyde, Chicago, saw no reason why the introduction of a poison, such as syphilis, into the system, should not bring a series of changes in the skin. Dr. Joseph Grindon of St. Louis said we should expect, reasoning a priori, to see such eruptions in syphilis. Dr. Klotz stated that he was inclined to consider it a syphilitic eruption, different from the erythema and similar affections.

DR. JOSEPH ZEISLER: I have, I confess, never been aware of the fact that there existed a distinct syphiloderm of the urticarial type. The paper of Dr. Klotz brings vividly before me a case which I observed in Chicago in the last few days, a case in which I was able to observe the first outbreak of constitutional symptoms, and where under my eyes there developed on the chest the usual roseola, but at the same time there developed on the face an eruption which really puzzled me. It was not an erythema, it was not a roseola, it was not a papular syphilide. It stood between. There were large rings, distinctly raised, and of an edematous type. The paper to-day is very suggestive to me in this respect, and I have no doubt that Dr. Klotz would have classed the case together with his own. Under injections the roseola on the chest disappeared very rapidly, the eruption on the face a little slower, but after a few weeks it entirely disappeared. The observations of Dr. Klotz are extremely interesting to us who are liable to see the rarer forms of the syphiloderms.

DR. JAMES NEVINS HYDE: I want to thank Dr. Klotz for his communication. We have listened to the report of an interesting exanthematic dermatosis following vaccination, and we have had the experience of our members in connection with that subject. There is no reason why the introduction of a poison, a foreign agent, into the system, as in syphilis, should not bring about a series of changes in the skin, which are varied in type, as after vaccination.

I have seen many times in syphilitic subjects the condition which Dr. Klotz has described—angioneurotic edema, multiform erythema, and I have seen lesions of other types which I think are surface indications of the toxic agent which is circulating in the system. Is the urticaria in these cases a syphiloderm? The fact that urticaria occurs in syphilitic subjects is not an occasional but a common experience.

I should like to know whether these symptoms occur in dispensary patients, or patients in private practice. Many of our patients in public practice are the victims of the "vagabonds' disease," and the observations which Dr. Klotz has made are applicable to such cases. These patients have drifted around from

point to point often with a new skin disorder in each, and the deep color of the eruptions seen in their skins being characteristic of the dermatoses of all kinds in that class.

DR. JOSEPH GRINDON: Angioneuroses are to be expected in the early stages of diseases due to toxins. We see them, after vaccination, and in the continued fevers. We might expect, *a priori*, to see them in syphilis. However, I have not seen them. If it is a fact that urticaria and symptomatic erythema often occur early after syphilitic intoxication, gentlemen who have observed these phenomena should tell us of them so that the rest of us may be on the lookout.

DR. KLOTZ: In answer to Dr. Hyde's question, I would say that the cases occurred partly in public and partly in private practice, but none of the patients came from the lowest strata of the population, or showed signs of uncleanness. At first sight my impression was indeed that the lesions were due to the bites of insects, as Dr. Hyde has stated. They had a very similar dark red color. But their persistency was not in favor of such an origin. Throughout my paper I have carefully and purposely avoided the use of the term urticaria in order to prevent any misunderstanding. As a relic from olden times, when the lesions alone formed the basis for the distinction of the diseases of the skin and when the name of the lesion served as well as the name for the disease, urticaria is still quite frequently spoken of wherever there is the appearance of wheals, although these lesions may appear under as various conditions and from as various causes as papules, pustules, etc. Wheals of the usual evanescent type may appear in syphilis as in all other individuals from the very same causes, during the presence or absence of syphilitic symptoms, without the slightest connection with the disease itself; I do not speak of a syphilitic urticaria in such a sense. I am rather inclined to consider the eruption in these cases as a genuine syphilitic one, different from the specific erythematous papular affections.

A Case of Xanthoma Tuberculatum Diabeticorum, Showing Rapid Disappearance of Lesions under Anti-diabetic Regimen and Treatment.—

DRS. S. SHERWELL and J. C. JOHNSTON. As long ago as 1890 Dr. Sherwell sent one of these cases to Dr. A. R. Robinson. The patient in the present case was a woman aged 40, somewhat plethoric, apparently well nourished, who was first seen on January 8, 1900. The urine was full of sugar. The lesions were first noticed between five and six years ago, most marked on the arms, elbows, knees and nates, and are less noticeable during the summer months. Last winter the symptoms became so distressing that she could obtain no relief by night or day. It would seem that from the first she had had classic symptoms of glycosuria. The appearance was such that, roughly speaking, at the distance of the width of a room the eruption might have been taken for a case of variola at the height of the pustular and confluent stage. She was put upon anti-diabetic regimen and diet, together with mild laxative alkaline treatment, and rapidly improved. The papular and tubercular masses flattened, the inflammatory halos entirely disappeared. At present there is scarcely even a pigmented spot to mark where the original lesions existed. The glycosuria is quite slight. So far only about thirty such cases have been reported.

DR. JAMES WHITE: I should like to ask whether any examination of the blood was made in this case of Dr. Sherwell's. Tissue change in the skin being produced by toxins, it will be interesting to show whether the blood is so altered by the presence of foreign material, or material in excess, that it gives rise first to germs and then toxins, which in their turn may produce such changes.

DR. JAMES NEVINS HYDE: May I be pardoned for saying a word, as I showed portraits of two cases at the time Dr. Pollitzer read his admirable paper on the subject. We must at times confess our ignorance. I think it is generally admitted that we do not understand the glycosuric condition. There is some twist in the process of metabolism, as a result of which these surface symptoms are produced. While I am tempted to accept the conclusions of Dr. Johnston, and I think his reasoning is good, still we have to explain the fact that cases of so-called xanthoma diabeticorum occur in patients who do not suffer from glycosuria, but have albuminuria; and also with eyelid lesions and without. Further, we have to explain the fact that simple cases of eyelid xanthoma are reported with glycosuric complications. Our ignorance with reference to the general glycosuric condition is such that at present we are in no position to dogmatize regarding the local lesions.

With regard to the very interesting case reported, I recognize it as of the same class and of the same order as those I have seen. The weight of the patient is suggestive: Most of them are very fat, and the fact that this woman was a beer-drinker is of importance. The disappearance of the lesions under a proper dietary is usual in this affection.

DR. SHERWELL: In reply to Dr. White's question, I would say that the blood has not been examined. I have little to add to the history of the case as given. Have tried to obtain some desiccated pancreas, in order to try what action it might have on the glycosuria. The pancreatin, or pancreatic enzyme, I have tried, but without result.

Very little medication has been used. Diet and relative abstinence from the carbohydrates seem to have accomplished most of the results given. I have given her a little arsenical treatment of late, and phosphate of soda on general principles.

The great relief of the subjective symptoms, the feeling as of removal of foreign bodies in the skin, was the most striking feature of the case; in two or three weeks she could use her hands and feet almost perfectly, and lie down in many position, without the horrible discomfort she had when first seen.

I may say that I have seen and have now a couple of marked cases of xanthoma multiplex, in which the tumors are marked over the elbows, knees and buttocks. There is no sugar urine present in these cases, and the tumors cause no inconvenience. There is not on them the slightest inflammatory areola, or other sign of inflammation.

DR. JAMES C. JOHNSTON: When the patient came over to me to have the lesion excised I thought of having a blood examination made, but I have seen so many blood examinations made this year in Cornell, with absolutely no result whatever, except in the parasitic conditions, that I hardly think that we can make any headway in that direction at all. As to Dr. White's question as to whether this is a toxin dermatosis, of course we have no proof. It might be a very easy thing to acquire the proof that the sweat is toxic, but a toxic sweat exists in all conditions, even that of health, and unless we could isolate a special toxin in this condition—a most difficult process—no advance would be made.

At the same time, there are certain pictures in pathology, even in so complex a subject as skin pathology, which give the eye a certain impression, and the picture of xanthoma diabeticorum under the microscope certainly gives one the notion that it is produced by an irritant, just as much as the wheal in urticaria, and we are all of us ready to acknowledge that that is an irritative lesion. Of course, we cannot be absolutely certain about anything, and after some years

of work I am growing less and less in the habit of making dogmatic statements on any subject; but in this condition, where you have a transitory disease, which improves instantly with the decrease of sugar in the urine, I think we are dealing with something that is absolutely one side of the ordinary performance of xanthoma.

As to the hardness of the lesion, my experience is directly contrary to Dr. Hyde's. My first patient had an enormous number of lesions on his body, as many as 2,500 at least. His chief complaint was that sitting or lying was like resting on a bag of shot.

Two Cases of Rhinoscleroma.—DR. C. W. ALLEN of New York presented with colored drawings and photographs two cases of rhinoscleroma, one of which had been under his observation since 1880, the other for about three months. Both are already known to literature. In the first case the portion of the growth involving the center of the upper lip, gum and inferior portions of the nose broke down in a gangrenous suppuration, and within the period of a fortnight was completely thrown off, leaving the bones denuded. These subsequently became covered over with a reproduction of the new growth, so that eating, breathing, sleeping, etc., became more natural and life was prolonged after it had been despaired of.

In the case of the man, whose affection had existed for nineteen years at least, there was enormous enlargement of the external nose, dilatation of the nostrils, which were also practically occluded. For nine years a tracheotomy tube had alone made breathing possible, and the stenosis extended the whole length of the pharynx, shutting off the posterior nares by bands and masses of fibrous tissue. Despite the severity of the condition present in both cases, there had been recent improvement in the general health.

An Unusual Form of Tumor of the Scalp.—DR. ALLEN presented a colored painting, gross specimen and microscopic preparation. The tumor which had been of slow growth upon the scalp of a woman advanced in years, had been widely excised after the diagnosis of probably carcinoma was made. The chief clinical feature of the tumor was its extreme hardness, almost like that of ivory. This was due to a central encapsulated mass which had undergone hyalin or colloid degeneration. Sections made by Dr. Martin Ware, to whom the reporter is indebted for a description of the appearances, showed an alveolar arrangement of polyhedral cells, growing in a very atypical manner. These cells are arranged about a central canal indicating that the growth emanates from glandular structure, either sebaceous or sweat gland. The cells do not take the hematoxylin and eosin stain well, because of the degeneration they have undergone.

Blastomycetic Dermatitis and Its Relation to Yaws.¹—DR. ISADORE DYER of New Orleans read this paper. In many particulars the case fulfilled the clinical characteristics of yaws. Dr. Dyer examined specimens and confirmed the diagnosis of blastomycetic dermatitis. Under the iodide treatment the improvement was rapid, the lesions flattened, the exudate diminished. Finally mercurial plasters (S. & J.) were applied to all of the lesions, successfully reducing the granulations. At the present time the face shows a smooth, glossy area, marked here and there by a fibrous tab, and with a large branching somewhat keloidal scar in the lower part of the area. Over all there is a fine linear network of scars, soft but marked.

¹ Will be published at an early date.

Three Cases of Blastomycetic Infection of the Skin, One of Them Producing a "Tumor" of the Lower Lip.¹—DR. F. H. MONTGOMERY and DR. H. T. RICKETS.

A Review on the Subject of Blastomycetic Infection of the Skin, with a Report of Two New Cases.¹—DR. J. N. HYDE, Chicago.

DR. JAMES C. WHITE: Possibly the first impression made by these papers is the question, Why have not the rest of us seen such cases? I presume that the answer is that we undoubtedly have seen them, but have misinterpreted them. That perhaps may be explained by the great zeal and assiduity with which we know such investigations are made by our colleagues in Chicago. I do not doubt that if we had made proper examinations of all cases considered to be tuberculosis in Boston we might have detected in some of them the presence of these elements. But I would like to ask a categorical answer from Dr. Hyde, if he can give it, on two points: First, in what proportion of all the cases of tuberculosis of the skin which he has seen since this subject was first presented to us by Dr. Gilchrist he has made an investigation with regard to the presence of these organisms? Second, whether in all the cases of this disease a proper and sufficiently exhaustive examination has also been made for the presence of the tubercle bacillus?

It is possible that there may be some etiological significance in the occupation of the persons affected, being dealers in grain, bakers, beer manufacturers, etc. Perhaps that might explain the greater number of the cases of this disease in Chicago than in some other cities, as Chicago is a great grain center.

DR. PUSEY: In evidence of the clinical similarity of blastomycetic dermatitis to the tuberculosis of Rhinel, I might say that the first case described by Dr. Montgomery came to me several years ago; I saw it, photographed it, and labelled it "tuberculosis verrucosa cutis." Sometime ago in talking with Dr. Montgomery I found that this case was one of his cases of blastomycetic dermatitis.

The case referred to in which syphilis was invoked to explain the clinical picture was seen by me in the Chicago Medical Society. I opened the discussion upon the case and expressed the opinion then that there was no reason to believe that syphilis played any part in the disease; and I have seen no reason since to change my opinion. The clinical picture was not to my mind that of syphilis; it was rather that of a warty tuberculosis of the skin.

DR. JOHN TEMPLETON BOWEN: Speaking of the possibly greater zeal in Chicago in the matter of searching for cases of this sort, I think we have tried to do our part in Boston during the past few years. We have examined histologically a great many cases which we considered perhaps doubtful cases of tuberculosis in the hope of finding something of this sort, but without result.

I cannot help feeling that this matter is not definitely proved; that we have not yet a right to say that all of these cases that have been described, and all of these pathological lesions, are caused solely by the yeast fungus. There is a wonderful resemblance, pathologically, clinically and histologically, to tuberculosis; greater, it seems to me, than in the case of any other known affection. Dr. Montgomery's second case had large plaques on the shoulder, and tubercle bacilli were found, the patient dying of miliary tuberculosis. In that case the yeast fungus was found in the lesions. I do not see myself why it is any more plausible

¹ Will be published at an early date.

to suppose that the yeast fungus was primary than that it was secondary to the tuberculosis. Here you have tuberculosis, a well recognized affection in every way. Because blastomyces are found in this tubercular tissue, we are not justified in concluding that they represent anything more than a secondary complication. The clinching evidence is the production of pure cultures and their inoculation upon animals. Dr. Montgomery tells me that no typical lesions have been produced on animals; nothing that simulates the external lesions in man. It seems to me a most interesting subject, but I should be disinclined to label such cases blastomycetic dermatitis, without further evidence.

DR. JAMES C. JOHNSTON: I am a little inclined to agree with Dr. Bowen and Dr. Zeisler, although I hardly know why, except for the histological contradiction referred to below. The investigators of this disease have certainly, so far as they can, carried out every requirement of Koch's laws to establish this organism as the cause of the condition. The mere fact that inoculation does not produce a condition which we would recognize as blastomycetic dermatitis does not prove anything at all. We cannot by any known means, no matter what form of bacillus we use, produce at will any type of cutaneous tuberculosis with which we are familiar. There are five bacilli which are capable of producing lesions which are indistinguishable in any way, shape or form from those produced by the tubercle bacilli. The reason for the failure of conviction on my part is the curious microscopical picture that is presented by blastomycetic dermatitis, exudative inflammation with pus existing side by side with productive tubercles. As regards the treatment, I was surprised to hear from Dr. Hyde that the administration of iodide does not produce a cure. My impression was just the opposite. I have a notion that the cure of the disease might be helped if, in addition to the surgical measures, iodine were applied to the condition locally in some nascent form such as I have found useful in other mycoses of the skin, in solution in iodid of potash. (Dr. W. H. Welch has recently stated to the author of these remarks that he has no doubt of the pathogenicity of the blastomyces and that, further, it increases by sporulation as well as budding. In other words, protozoan and blastomycetic dermatitis are due to the same organism which is capable of causing exudative and productive inflammation in the same skin. In respect to this authority, Dr. Johnston desires to withdraw any objections he may have made to the acceptance of the causal relationship of the fungus to blastomycetic dermatitis.)

DR. SHERWELL: In common with most clinicians, I presume I have had some such cases, as are under discussion, but have not recognized them as such, and have placed them usually from their appearance as cases of tuberculosis verrucosa. I have one case now that may be of this character, and curiously enough in view of the recognized parasite in these cases, he is the driver of a brewery wagon, it the lesion, covers the whole of left nates. He was apparently doing well, very well, after curetting and mild, but thorough application of acid nitrate of mercury, but has met with a serious accident from a fall so that for some weeks I have not seen him, and understand that partially at least it has relapsed.

DR. M. B. HARTZELL: I think it is worth while calling attention to the fact that the histological features of this case are not such as would lead us to suppose that this fungus was capable of producing any epithelial change similar to those found in the epitheliomata. While it is true there is more marked hyperplasia of the epidermis, it is just such as is often found in lupus vulgaris. If it is a fact that this yeast fungus is a pathogenic agent in this disease, it is a very

curious thing that in one instance it produces lesions of one sort, and in another instance is responsible for a malignant disease like epithelioma.

DR. T. C. GILCHRIST: With reference to Dr. Dyer's case, I examined a portion of skin which he excised and found that histologically the section were similar to the two cases which I have already reported. The characteristic features of blastomycetic dermatitis, viz., the hypertrophy of the epidermis, the presence of miliary abscesses both in the epidermal layer and in the corium, numerous giant cells. And the pressure of blastomycetes in the miliary abscesses and scattered throughout the corium, various budding varieties of the organisms were also found. The organisms were not at all numerous, but were quite similar to those I had seen in my two cases. Dr. Dyer also sent me a culture which was contaminated with large bacilli and cocci. The organism was easily obtained pure and the culture was unlike the blastomyces which Stokes and I obtained from our case. Dyer's culture was white, smooth and did not present to the naked eye, although it was easily seen by the low power of the microscope, the frayed edge. Dyer's culture, in my opinion, was like that obtained from Montgomery's case (Chicago). I have not found as yet that it is pathogenic in animals.

In discussing the disease blastomycetic dermatitis it appears to me now decidedly proven that it is a disease which clinically, pathologically and bacteriologically stands apart from other diseases of the skin. The clinical feature of all the cases described are fairly constant. Dr. Dyer diagnosed his case quite correctly on clinical grounds alone, and his diagnosis is fully confirmed pathologically. Drs. Hyde and Montgomery have become expert diagnosticians of this disease, as their records of cases have shown.

In demonstrating that this disease is a clinical entity all the laws of Koch have been carried out. The organism is present in every case; pure cultures have been obtained from the majority of the cases, similar pathological pictures and diseases have been reproduced in animals. And lastly pure cultures of the same organism have been every time from the lesions in animals. The question came up in the record of some cases in Chicago whether the disease in those cases was not syphilis with the blastomyces implanted on it; but it was proved in those cases that there was an absence of syphilitic history and the histological picture was not that of syphilis but of blastomycetic dermatitis. A diagnosis of syphilis was made because the lesions got well under the administration of potassium iodide, and it has been demonstrated by Dr. Hyde that this drug exerts a curative action on this disease.

DR. JOSEPH ZEISLER: I desire to express my great satisfaction at the conservative remarks of Dr. Bowen. It would seem that clinical experience alone cannot be relied upon; and that hereafter we shall have to be guided in our final conclusion by the microscope. The question is whether we have a right to overthrow well-defined, sharp and precise clinical pictures which we have always recognized, on account of the occasional occurrence of these organisms. It seems to me perfectly reasonable to imagine that in some of these lesions, the blastomycetes organisms are secondarily inoculated, and that they have not any primary rôle in causing the clinical picture. The evidence that the inoculation of the pure cultures of this organism are capable of producing always the same clinical manifestations is not yet at hand in a sufficient degree. The subject is very young and immature as yet, and we should be thankful to those who make observations of this kind; but I think before we establish a distinct dermatosis under this name we had perhaps just as well wait a little and see.

DR. H. G. KLOTZ: As Dr. Hyde mentioned in speaking of the differential

diagnosis between blastomycetes and syphilis that the lesions would not heal entirely from the iodine treatment. I would say that in many cases syphilitic lesions do not yield wholly to general treatment, but can be completely cured only by local surgical treatment.

DR. JOHN A. FORDYCE: Certain forms of staphylococcus infection of the skin may be mistaken for blastomycetic dermatitis.

I have lately observed a case of rapidly spreading superficial ulceration of the leg which healed leaving an elevated warty-like cicatrix. The secretion from the ulcerated surface was conveyed to other parts of the skin and gave rise to a vesicopustule which was subsequently followed by a warty outgrowth. Repeated examinations of the tissue as well as culture experiments failed to reveal the presence of blastomyces. Pure cultures of the staphylococcus aureus were, however, obtained.

It is also possible that the blastomyces may be inoculated on an ulcerated process of the skin. I do not think it is always so by any means. In Dr. Gilchrist's case the presence of tuberculosis was absolutely excluded by inoculations in animals.

It may be that blastomycetic dermatitis has a local distribution. This would account for the fact that more cases have been reported from Chicago.

DR. FRANK HUGH MONTGOMERY: I would thank Dr. Johnston and Dr. Gilchrist for so ably answering some of the questions asked during the discussion. As to the production of the disease in animals, identical lesions have not been reproduced; indeed, I do not know that we could expect them to be. There has been produced thickening of the skin, and also sub-cutaneous abscesses. Metastatic lesions have occurred in the lungs, kidneys and other organs from which the blastomyces has been removed and cultivated. I do not know that it is possible to reproduce the same clinical picture we have in man. I think Dr. Hartzell's point with reference to the character of the epithelial hyperplasia in these cases is well taken. In the case in which tubercle bacilli were found, I can only repeat that the man carried his cutaneous disease for nearly eight years without the slightest impairment of his general health, and that repeated inoculations of this tissue in guinea-pigs gave negative results. The tuberculosis in this case was undoubtedly secondary to the other disorder.

I saw the Chicago case referred to by Dr. Pusey and agree with him in saying that I could see in it no reason for suspecting syphilis. The case was not cured at the time of its exhibition; the borders of the massive scar on the thigh showed typical, active lesions, while over the scar could be seen pin-head-sized abscesses. In several cases we have found, in the apparently healed surfaces, similar miliary abscesses which contained the blastomycetes in abundance. In one instance we cut out a piece of firm, dense scar tissue in which no abscess could be seen. In the deeper layers of this scar typical organisms were demonstrated. Potassium iodide apparently inhibits the activity of the parasite, but does not destroy it.

We have not yet had time to investigate the grain theory. Prior to the time of the appearance of the disease on the lip of this grain dealer there had been a dry-rot of the grain, and a great many animals had died after eating it. We have examined a great many cases of supposed cutaneous tuberculosis for bacilli, but have taken as a rule the inoculation method, as the one giving most positive results. During the past six years we have examined about twenty cases for the

DR. JAMES NEVINS HYDE, Chicago: I think Dr. Fordyce has suggested the correct facts. For some reason or other, there are localities where, for the time

being, these cases are more frequent in occurrence than in others, and this explains our good fortune in seeing them. As to the occupation of the patients, there is no case of any brewer here set down. When Dr. Montgomery first showed me his lip case, viewed at a distance it certainly had a resemblance to epithelioma, and we supposed that possibly it might be such; but when the lip was examined, it was found strikingly different in its superficial character; the body of the lip felt natural to the touch, and the florid fungous mass, lifted high above the general level of the lip, was unlike anything I had seen. The other case of Dr. Montgomery's was not one of tuberculosis cutis, picked up at random, with blastomyces accidentally discovered later. It was a case which puzzled us greatly. We studied it carefully in the office, and showed it to Professor Senn. Dr. Zeisler examined it and thought it was a form of sarcoma of the skin. This was a peculiarly interesting and exceptional new growth. Dr. Montgomery looked vainly in London for a similar case, and when I came to question some of the English physicians I think Dr. Norman Walker said he had seen something of the same sort. So this was not a case of tuberculosis of the skin selected at random. Have we here a new dermatosis to present to the profession of the country? My conclusions are rather in the form of suggestions or questions.

Selections.

Calculi Impacted in the Ureters.—DAVID NEWMAN, M.D. (*Brit. Med. Jour.*, April 21, 1900).

In an exhaustive article on this subject, Newman discusses its pathology, symptoms and treatment.

Impaction of calculus in the ureter is one of the most common causes of total obstruction to the escape of urine. Complete obstruction is more apt to occur than when the stone is lodged in the renal pelvis.

Complete and sudden closure of the lumen of one ureter by a stone is followed by atrophy of the corresponding kidney, which is associated in most instances by a compensatory hypertrophy of the opposite organ. When the closure is sudden and complete wasting takes place without the pelvis becoming distended enough to produce a swelling in the loin, since the calices and pelvis of the kidney are not liable to sudden distension, being only capable of slow and gradual dilatation. Impaction causes an inhibition of the secretion of the corresponding kidney, owing to the diminution of the blood-flow through the kidney and its consequent atrophy.

If the obstruction is incomplete or transitory and the urine is permitted to flow into the bladder at intervals, advanced unilateral hydronephrosis follows. Two conditions cause marked distension of the kidney—partial obstruction of the ureter with leakage, and complete transitory blocking with rapid and sudden collapse and dilatations of the upper urinary tract. In the highest grade of hydronephrosis the kidney may appear as an enormous membranous sac, recognizable only on account of its relation to the ureter and colon.

When a stone becomes impacted in the ureter and the corresponding kidney

becomes atrophied years may elapse before the only working kidney becomes the seat of the old disease. A calculus forming in its pelvis, passes down into the ureter, becomes impacted there and a similar though more marked train of symptoms appear as before.

Suppression of the urine means that the ureter of a working kidney has become completely blocked, while the other kidney has for some cause or other been rendered "hors de combat."

Newman classifies these causes as follows:

1. Reflex inhibition of the function of the opposite healthy kidney.
2. Impaction at a previous date, followed by hydronephrosis, or atrophy of the kidney on the side opposite to the one recently attacked.
3. Tuberculous nephritis, pyonephrosis, or congenital absence of one kidney.
4. Bilateral diseases of the kidneys, including Bright's disease, cystic degeneration, etc. As an example of reflex inhibition of the kidney functions, the passage of a catheter has been succeeded by complete retention and later by hematuria.

Calculus anuria may last for many days without development of toxic symptoms. This freedom from "uremic symptoms" is the feature which distinguishes obstructive uremia from suppression due to disease of the renal parenchyma.

The author states that the Roentgen Rays are of little positive value in the diagnosis of this condition and that no reliance can be placed on observations made by this method.

As to the treatment, if there is reason to believe that one ureter only is blocked and that the opposite kidney is healthy, it is advisable to await the course of events, as the obstruction may be relieved spontaneously and no harm result. Massage, shampooing and fomentations relieve the spasm. Pain is relieved by opium and belladonna, used with extreme care. Hot fomentations, emollient enemata and hot baths are safer. In extreme pain an anaesthetic may be administered which not only relieves the pain, but may also facilitate the passage of the calculus from the ureter by abolishing spasm.

When the ureter of the only working kidney is obstructed, surgical interference is indicated. The operative procedure depends on the position of the stone.

A. L. W.

Ureterectomy.—J. WESLEY BOVÉE, M.D. (*Jour. Am. Med. Association*, 1900, p. 970).

The history and literature of this comparatively new operation are briefly reviewed, and a recent operation performed by the writer reported.

When the kidney is removed for tuberculous disease, the ureter is likely to be involved in the same pathologic process to a greater or less extent, from above downward, demanding at least a partial ureterectomy. In sarcoma of the kidney, extension of the process to the ureter is quite unlikely. The ureter need, therefore, not be removed. Stricture of the ureter, with obstruction and dilatation higher up, demands the removal of the ureter as well as the kidney. Primary malignant disease of the ureter is not very common, judging from the literature on the subject. Yet the intimate relationship between this duct and the peritoneum would seem to favor early extension of cancer and other malignant disease of the ureter. Syphilis may cause incurable or impermeable stricture, indicating ureterectomy. Hydro-ureter with hydronephrosis will sometimes require entire removal of the ureter and kidney. By the use of some form of anastomosis, considerable of the lower part of the ureter may be dispensed with, thus saving the kidney function.

The prognosis of the operation is not dangerous; thus far of the twenty cases recorded, there are records of two deaths, both in enfeebled subjects. With a larger experience in the technique of the operation the results should be much more favorable.

A. L. W.

Restoration of Base of Bladder and Urethra (In the Female) by Plastic Surgery.—BACHE MCE. EMMET, M.D. (*The Post-Grad.*, 1900, p. 451).

A woman, aged 22, was brought to the Hospital, three months after delivery of child at full term. Was in labor 16 hours. Instruments were used. Complaint, inability to hold her water.

Examination revealed destruction of the vaginal vault; base of bladder from the cervix forward to the pubic bones, gone, with the exception of a band one-third of an inch wide, thus forming a fistula anterior to the cervix. Uterus was retroverted and the entire cervix was within the bladder. There was no trace of a urethra, Douglas' pouch was nearly obliterated by cicatrices which held the uterus forcibly in its abnormal position.

By a series of plaster operations covering a period of some eight months, during which an abdominal section was formed and a double pyosalpinx and purulent cystic ovaries were successfully removed, Emmet succeeded in forming a new bladder base from portions of the posterior vaginal wall. The anterior edges of the new base of the bladder were pared, carried forward and stitched to the scraped surface of such tissues as were found under the pubic arch, forming the beginning of urethra.

The patient's condition is now excellent. By the aid of a glass plug, control of the urine can be maintained for two or three hours.

The appearance of the vagina is the same in all its parts, notwithstanding that the anterior two-thirds is artificial, and there is no evidence of change of structure over the base of the bladder, which is composed of posterior vaginal wall.

A. L. W.

A Preliminary Report on Inoculation of Syphilis into Animals.—G. HUGEL and K. HOLHAUSER (Wolff's Clinic) (*Arch. f. Derm. u. Syph.*, vol. 51, p. 225). p. 225).

Blood obtained from the median vein of the right arm of a patient suffering with a maculo-papular syphilid was injected subcutaneously on a level with the third mammary gland, of a two months' old sow. The rest of the blood was injected subcutaneously partly into the external surface of the ear and partly into the vein of the same ear of the sow. The whole procedure, bleeding and inoculation, was performed in about two minutes. Fourteen days after the injection several hard, indolent inguinal glands appeared, being followed four weeks later by a maculo-papular eruption, which was considered as syphilitic and recognized as such by Professor Wolff. Two halves of a freshly-excised sclerosis were sewed in the abdominal wall, and the right ear of a castrated pig. There the results were negative, no signs indicating syphilis having been noticed. Histological descriptions of sections of the papules of the sow were given. The author expresses the opinion that the syphilitic virus can be transferred to warm-blooded animals, and especially to pigs.

Therapeutic Reports

This department has been opened for a free discussion of the merits of preparations offered for the use of the profession.

WHY I USE PEPTO-MANGAN "GUDE." AN EXPERIMENTAL DEMONSTRATION.*

BY WM. KRAUSS, PH.G., M.D.,
MEMPHIS;

Director of the Microscopic Laboratories, Memphis
Medical College; Pathologist and Visiting
Physician to St. Joseph's Hospital,
etc., etc.

[Reprint from *The Memphis Lancet*, April, 1900.]

Some five years ago I wrote a paper for the *Memphis Medical Monthly*, giving a résumé of the evolution of the iron compounds, and appended a report of cases giving blood counts, etc. The manufacturers of the preparation I preferred saw fit to reproduce the case reports in their pamphlets, but said nothing about the reasons that induced me to prefer their product.

At a recent joint meeting of physicians and pharmacists I was criticised for opposing the use of ready-made compounds, while still advocating the use of Pepto-Mangan "Gude," which is a proprietary preparation. I hesitated considerably about bringing the matter up again, because I dislike to build up a reputation as an endorser, and *have never in any other instance written an article endorsing a proprietary preparation.*

I hope, however, to show you this evening that there is no pharmacopœical preparation that meets the requirements of an ideal iron compound, and, until this is found, I intend to continue to use what has never disappointed me, and is not based upon mere faith. The work of Bunge is too well known to be now quoted, and I will only make a few experiments before you this evening and show the reasons for the faith that is in me. There may be other proprietary iron compounds, and doubtless there are, that will come up to the same requirements, but I see no advantage in swapping the devil for the witch.

It is not necessary to repeat all the tests with all the official iron preparations, because they are divisible into

groups, all the salts of one group behaving very much alike toward the gastric and intestinal juices.

An ingenious theory recently put forward regarding the action of the mineral salts of iron is, that they decompose the substances in the intestinal tract which precipitate the *food iron* so that it may be absorbed. This is the only rational explanation of the fact that we do occasionally get results from them. On the other hand, it is far more rational to use an iron compound that can be, and is absorbed, for then we are reckoning with known quantities, instead of blundering along, giving more iron at a dose than is contained in the entire body, and incidentally deranging the digestive functions by precipitating the gastric, pancreatic and intestinal juices, and producing constipation by reason of the very astringent nature of some of the iron salts.

Beginning with the organic double salts, of which the scale salts are representatives, we notice upon the addition of this gastric juice, that a precipitate is formed; the double salt is decomposed and ferric salt remains, which is insoluble, both in gastric and intestinal juice.

The tincture of ferric chlorid will precipitate some of the gastric constituents, though most of the iron will remain in solution in the hydrochloric acid; the iron still in solution will not be absorbed, because its non-diffusibility is taken advantage of in the manufacture of *dialysed iron*, the acid passing through the animal membrane; when the iron finally reaches the intestine, the alkalin carbonates promptly precipitate it. Ferrous sulfate behaves similarly. In both instances, as you see, the very insoluble ferric oxid is finally formed. If you have ever tried to remove iron stains from your water pitcher, you have some idea how insoluble it is.

The insoluble compounds, like reduced iron, or Vallet's mass, only serve to render inert the arsenic with which they are usually prescribed; if dissolved at all in the stomach, they are re-precipitated in the intestine.

Taking now Gude's preparation, we find it soluble, not only in all these rea-

*Read before the Memphis Medical Society,

gents, but also in a mixture of them. Potassium ferrocyanid readily gives the iron reaction, excess of ammonia will separate it, redissolving the manganese, which is then recognized by the color of its sulfid; the alkaline copper solution gives the reaction for pepton, showing that it is what the label says. It mixes with arsenious acid, forming a perfect solution, thus giving us a most useful hematopoietic agent. The soluble alkaloïds are perfectly soluble in it, as is also mercuric chlorid. Being a pepton, it is readily diffusible by osmosis.

The only disturbing agent in the intestinal tract is hydrogen sulfid; this will precipitate it, but presumably, much of the iron must have been absorbed before it encounters this gas; if not, appropriate agents should be used for its elimination.

Therapeutically, it does not nauseate, constipate, discolor the teeth, precipitate the digestive agents, nor become inert from contact with them. As to the clinical results, I need not add anything to the many reports already on record.

CAUSES, DIAGNOSIS AND TREATMENT OF CYSTITIS.

In the *Medical News* of April 7th, 1900, appears a complete and comprehensive article with above title by Dr. Ramon Guiteras. We reprint herewith a portion of this paper on "Treatment of Cystitis Due to Tuberculosis."

"In the treatment of tubercular cystitis, the practitioner encounters a condition that taxes all the resources at his command and he errs, as a rule, on the side of too much, rather than too little, treatment. In other words, it often happens that the more you treat the patient locally for his cystitis, the worse the condition becomes. It is, therefore, necessary to proceed cautiously in the treatment of this form of bladder inflammation, and, above all, is it important to improve the general condition of the patient as much as possible. If we were to treat patients suffering from tubercular cystitis along the same lines as pulmonary cases, namely, by sending them away to lead an open-air life under conditions that would improve their nutrition to the utmost, the condition would be much more rapidly improved or cured than by anything that could be done by the ablest specialist of the period.

Numerous remedies have been recommended by different authorities for the treatment of this form of cystitis, and naturally every practitioner who encounters this rebellious trouble grasps at anything that offers the probability of a cure. Guyon at one time advanced the use of intravesical injections of bichloride of mercury, 1 to 10,000, and since

then many have been following his advice, but such a solution will rarely cure this disease, while it usually produces an irritation that is almost unbearable.

Nitrate of silver and permanganate of potassium have the same effect. Boric acid and boro-glycerine irritate less, but do not seem to possess the power to ameliorate the disease. Recently iodoform injections have been advocated and the procedure would seem to be founded on a logical basis. Three or four ounces of a five-per-cent. solution of iodoform in liquid vaseline are injected into the bladder every two or three days, the patient being instructed to watch the stream when he urinates and stop the flow just as soon as the oil appears. This forms a permanent iodoform dressing of the bladder-wall, and in the hands of some of the French surgeons is said to have met with gratifying results.

Personally, I have had better results with boro-lyptol in this class of cases than with any other remedy which I have employed. This seems to have a powerful germicidal effect, while the fact that it does not irritate the bladder renders it pleasant to the patient. It is used in the strength of from 1 in 8 to 1 in 16 in irrigations by the hydrostatic method. After a few irrigations at the office, the patient will be able to use it every night at home. I have one patient now under observation who suffered for a number of years from a most aggravating frequency of urination accompanied by pain, dependent upon a tubercular cystitis. Under this treatment the urine has cleared up, the tubercle bacilli have disappeared and the patient can hold his urine from seven to nine hours at night and from four to six hours during the day.

Internally, in connection with any local treatment, an antispasmodic and an internal antiseptic should be used as a palliative measure; it is wonderful how much relief may be given to the patient by this means, even although pus remain in the urine and the tubercle bacilli still be found. One patient has been coming to me for three months who was entirely relieved of his disagreeable subjective symptoms by a mixture containing 10 minims of the tincture of belladonna, 15 grains of benzoate of soda, and oil of gaultheria up to one drachm, t. i. d., although not until he was put on the boro-lyptol irrigation did the pus and tubercle bacilli in the urine diminish to any marked degree. The effect of palliative internal medication is worthy of notice, in view of the fact that he had suffered for fourteen years, and had been under the care of many different physicians without relief, having most probably been overtreated by too much instrumentation and too frequent or too irritating irrigations."

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Original Communications.

A CASE OF XANTHOMA DIABETICORUM.¹

BY SAMUEL SHERWELL, M.D.,
Brooklyn.

WITH A REPORT ON THE HISTOLOGY,

BY JAMES C. JOHNSTON, A.B., M.D.,
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THE short clinical history of this case (all that I think is necessary, as it is so ably considered from the histo-pathological point of view in annexed paper by Dr. James C. Johnston), I present to the Association as a somewhat striking instance of this relatively infrequent disease of the skin. I am also enabled to add some excellent photographs for which I am indebted to the kindness of Dr. George H. Fox. It seems to me to exemplify and add to the clearing up of some of the points in etiology, and also to a certain extent therapy, of this peculiar affection.

As long ago as 1890 I, in view of the peculiar interest he had in the subject, sent one of these cases to Dr. A. R. Robinson, whose valuable contribution on this subject, at the International Medical Congress of that year, will be remembered. That one was not so marked or striking a case as the present, but was in most respects (situation of lesions, etc.) similar, and although during the short time she was under my observation, the urine was always more or less glycosuric,

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when she came under his care later the sugar seemed to have disappeared, the albuminous condition continuing and increasing until she soon afterward sank, under the usual nephritic symptoms.

The present case, Mrs. E. D., æt. 40, native of the United States of America, somewhat plethoric and stocky in build, and apparently fairly nourished, first appeared at my clinic January 8, 1900.

Diagnosis being evident at a glance, she was directed to come to my office the following day, and to bring sample of urine, which she did. The urine was then examined, found to have sp. gr. 1021; normal in reaction; slightly albuminous, and an enormous sugar reaction found.

She gave the following history: Had been married for twenty years; had always since childhood been in fairly good health; had borne four living children, all of whom had died from some disease incident to childhood, such as diphtheria, etc.; the one who had lived longest, died in its sixth year.

During the last five years she had had a number of miscarriages, four or five (which, however, do not seem from her description and evidence to cause or influence the lesions, the conditions going on unaffected by those events).

The first lesions, always of the same description, were first noticed between five and six years since, most marked on the arms, about region of elbows, the knees, and nates; these manifestations in higher or lower grades have been constant ever since, but have been relatively and positively less during the summer months; extent and intensity increasing with each year. She has at various times been under the care of various physicians without obtaining relief, or even diagnosis of the trouble and so far as I could learn no examination of urine had been instituted, or at least no sugar found.

During the present winter the symptoms, both objective and particularly subjective, became such a source of distress that she could obtain no relief by night or day. The hands could not be used without great pain in her household duties, feet pained her on standing or walking, and even her decubitus at night rendered sleep, except that of exhaustion, impossible; the tubercular masses in skin feeling and causing sensation like foreign bodies (peas or shot) on her lying down.

From her description of amount of water passed daily, thirst, etc., etc., it would seem as if from the beginning of the five years she had had classic symptoms of glycosuria.

On physical examination I found that which the photographs will largely supplement, as to description. Roughly it may be said that she, standing nude at a certain distance from the observer, say width of a

room, the eruption might have been taken for a case of variola, at the height of the pustular and confluent stage of that disease. Around all the tuberculate and conglomerate masses, rising in some instances

Fig. 1.



Xanthoma Diabeticorum.

one-quarter inch above the niveau of the skin, and for that matter around the smaller papules, though naturally less in degree in these.

there were narrow, dark red inflammatory halos. The tops of the elevations were rather conical information and of a bright yellow (xanthomatous) character. They were hard and resistant to the touch; quite as much so in this particular, possibly more, than corresponding lesions in ordinary xanthoma planum.

The lesions, as has been stated, were most plentiful in the sites before mentioned, *viz.*, extensor surfaces of arms, legs, the nates, back, nucha, etc.; no one part of the body was totally exempt, the eruption plentifully distributed over the palmar and plantar surfaces as well as on the dorsi, scalp, etc., etc. The one noteworthy exception to this was the fact that the eyelids, those usual seats of xanthoma planum, were entirely free.

Wishing to present her in this classic condition at the meeting of the New York Dermatological Society—January 23, 1900—I did not put her on active medication but confined myself to ordering her to restrict herself to, as nearly as possible, anti-diabetic regimen and diet, together with mild laxative alkaline treatment. I received visits from her every two or three days; at each time an examination of the urine was made. About ten days from first visit I accompanied her to Dr. Fox's office, where the photographs now shown were obtained.

At each recurrent visit she expressed herself as greatly improved in feeling, and her objective lesions became decidedly improved. Sugar in the urine decreased very much, and on the date mentioned above, January 23, she was shown to the Society. Speaking clinically, I would say that the lesions at that time, less than three weeks after her first visit, by the simple means alluded to, were greatly lessened. I should say that she was fully 20 per cent. nearer the norm than at the time first seen. The papular and tubercular masses were flattening, the inflammatory halos had almost entirely disappeared.

I have seen the case on an average every week since that time; progress has been steady and satisfactory, so that at the present writing there is scarcely even a pigmented spot to mark where the original lesions existed. She is a contented woman, able to do her own housework, and to all external and visible appearances not bearing a trace of the old trouble.

The glycosuria is not now, nor ever has been, entirely absent, but is quite slight comparatively. She keeps to her diet and to her medication with fair exactitude. Naturally I can only believe the case palliated—a cure is too much to be expected; it will doubtless recur, and if she is imprudent, very soon. I shall keep her under observation faithfully, if possible, during the coming fall and winter especially, and will report her state in the future, if able.

I shall not take up the time of the Society by going into the etiology or pathology of this disease, it being considered so fully elsewhere, except to record my belief that it is not a true xanthoma, but an inflam-

Fig. 2.



Xanthoma Diabeticorum.

matory condition resembling that affection, occurring in diabetics. I have read a good many articles on the subject, and have found that

most writers who have gone deeply into the subject have come to that same conclusion. The name is a sufficiently descriptive one and should be retained. An excellent bibliography was first given by Dr. Johnston in his paper published in the *JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES*, October, 1895, which has been further amplified by Norman Walker, *British Journal of Dermatology*, December, 1897. Other articles have since appeared, the most noteworthy by Toepfer, *Archiv. f. Derm. und Syph.*, July, 1897, and Schwenter Trachsler, *Monatsheft.*, September, 1898.

It will be seen that the cases so far recorded have been very few since recognition of the disease, not much exceeding thirty in number. I am glad to have had the opportunity in connection with this case of giving good observers the opportunity for further study of this interesting malady.

S. S.

Histology.—Since my last paper on xanthoma diabeticorum was written, a number of new cases have been reported, and among the authors, Walker, Toepfer and Pollitzer have undertaken histological investigation. It would seem that there could be very little to add to the results of their labor and to the findings of Robinson, Crocker, Payne, Clarke and Schamberg, who preceded them: but I may be pardoned for reiterating the belief that my first conclusions were correct. The nodule which was taken for examination was in the regressive stage, and should, on theoretical grounds at least, show a very different picture from the florid period in an acute attack. In point of fact, the essential features are the same and the disease is unquestionably to my mind, in the light of improved technic and greater experience a subacute, exudative dermatitis, terminating, as Török pointed out with great force, in a granulo-fatty degeneration and not the heretotopic, arrested development of fat seen in the ordinary xanthoma.

The nodule was fixed in formalin (4 per cent.) and divided, one-half being placed in osmic acid and the other carried through graded alcohol to 95 per cent. It is my belief that absolute alcohol warps and tans the skin to such an extent as to destroy tissue relations, after cell cell outlines, and prevent a proper application of many minute changes. The tissue was stained in hematein and eosin, picro-fuchsin and Unna's polychrome methylene blue and orcein, separately and together. The alcohol specimens had of course lost every particle of fat. The osmic acid sections were a little thick and somewhat over-stained, but give a good general idea of the distribution of fatty material. Besides the situations where it normally occurs, as in the coils and ducts of the

sweat glands, sebaceous glands, and between the epidermal cells, its wide distribution through the corium and subcutaneous tissue is rather striking. It is gathered into masses in the connective tissue of the derma about midway between the coil-gland level and that of the epithelium. These areas are not sharply defined by exudation or connective tissue increase and the droplets are doubtless disseminated from them in a purely mechanical fashion, finding their way through the tissues in every direction, in the juices as well as in the lymph channels. Minute drops can be seen in endothelium of capillary walls, but whether their presence is due to a degeneration or an absorption from the stream, it would be difficult to say. The yellow color of the nodules is due to the masses of fatty degeneration in the pars reticularis and not to the general dissemination of adipose material through the skin, a yellow point indicating the site of each separate aggregation.

The nodule of diabetic xanthoma begins and remains localized throughout its whole course in the corium, appearing first as a sheath about the blood-vessels of the reticular portion and extending along them to the papillæ and subcutaneous tissue. The epidermis exhibits little change and that entirely secondary, consisting of an obliteration of some of the interpapillary projections and a vacuolation of some of the epithelial cells. The cellular sheaths about the vessels consist exclusively of mononucleated cells, of varied origin and morphology. Those of hematogenous derivation are lymphocytes and plasma cells, large and small; those resulting from proliferation of fixed tissue elements are fibroblasts and endothelial cells (epithelioid cells, they are commonly called). The two last are differentiated in this way: fibroblasts are fusiform or branched cells with a poorly staining protoplasm, ill-defined outline, and a long, narrow nucleus which takes basic dyes diffusely; while endothelial cells are ovoid, their protoplasm shows a strong acidophile tendency, and their nuclei are oval and vesicular. The latter are the so-called "xanthoma cells," and undoubtedly, as in other conditions, produce giant cells by fusion or nuclear division. These forms, with a larger number of mast cells than I have seen in any condition except urticaria pigmentosa, scattered irregularly through the diseased area, form not only the bulk but the whole of the infiltration.

Endothelial cells are prone in any form of proliferation to undergo fatty degeneration. In this instance I believe it is not too much to say that they constitute the only element of the infiltrate which does. In the sections from Dr. Sherwell's case, they are almost completely destroyed, but enough remain to illustrate the beginning of the process. Fat droplets in alcohol specimens naturally appear only as tiny holes.

in the cell protoplasm. The larger masses show no formed elements except here and there protoplasmic threads occasionally enucleated stretched across an empty space. Granular detritus is sometimes seen at the borders of the voids. It is claimed as the result of experiments that no such condition as fatty degeneration exists, the process being always an infiltration, but the question, still unsettled, need not concern us here. The cells are destroyed and fat remains.

The connective tissue bundles undergo considerable change. A slight edema in the beginning separates them; they swell, thicken, become translucent, and finally disappear in spots, the free fat taking their place. They probably undergo hyalin degeneration and are re-formed later by the fibroblasts mentioned above. I have been able to make out no change, increase or decrease, in elastic tissue. The blood-vessels and unstriped muscle are not appreciably altered.

The process is then from the character of its cellular exudate, an exudative inflammation with some elements of production in which (endothelium) fatty change occurs, free fat infiltrating the tissues. This is a different condition from that of common xanthoma and xanthoma palpebrarum. Pollitzer has demonstrated a fatty metamorphosis of unstriped muscle in the latter, and Török a formation of heterotopic adipose tissue (not from endothelium) in the former. The conditions have a somewhat similar clinical aspect, but not involution or evolution. I have given up tilting at terminological windmills, so the name I coined—*dermatitis xanthomatoides*—had best be abandoned. I should, however, be greatly pleased if I could persuade my fellow-workers to the belief that diabetic xanthoma and nodular xanthoma have only one common characteristic—the presence of pathological fat in the skin.

ON THE PATHOLOGY OF GONORRHEAL PYELONEPHRITIS—PRESENTATION OF A GONORRHEAL KIDNEY.

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I N presenting this specimen, I must apologize for having been unable to obtain a more comprehensive history of the case during life, or of the pathological observations at the post-mortem examination. I did not see the patient during his life and was not present at the autopsy. The patient was admitted to the City Hospital in a semi-conscious condition and no definite history was ever obtained from him during the short time in which he lived thereafter. It is to the courtesy of the superintendent of that institution, Dr. H. L. Nietert, that I am indebted for the privilege of presenting this rare specimen and making what little report there is to be made of the case.

F. F., æt. 54, laborer, male, was received, on July 24, 1899, in the stupid condition above referred to, that resembled one of uremic intoxication, and he remained in practically the same condition up to the time of his death, six days later. By persistent questioning, certain declarations were elicited from him: That he had never had venereal disease, neither gonorrhea nor syphilis. Some twelve years ago he had noticed a dull pain in the region of the kidneys. There had been frequency of urination, with the passage of only a small amount each time. Since then there had been sediment in the urine continually. Of late years there had been gradually increasing development of lassitude, headache, vertigo, failing vision, anemia, indigestion, sleeplessness, dyspnea on slight exertion, and loss of flesh. For three weeks before entering the hospital he had had daily chills and fever, and other symptoms that were interpreted by him as malarial. In the hospital his blood was examined and the plasmodium malarie was found. Physical examination showed marked arteriosclerosis, marked anemia, and lack of nutrition. There was limited movement of the chest-walls, dyspnea, and sunken abdomen; edema of the lower extremities, especially of the left, and edema of the lower eyelids. Urine—Specific gravity 1014, alkaline, yellow, large amount of albumin; heavy, milk-like deposit, containing epithelial cells undergoing fatty and granular degeneration; epithelial casts, a few hyaline

¹ Read before the American Association of Genito-Urinary Surgeons, at the Congress Meeting in Washington, D. C., May 1st, 1900.

casts, and a great many leucocytes and triple phosphate crystals.

Ante-mortem diagnosis—Chronic parenchymatous nephritis and malarial intoxication. Treatment—Quinine, stimulants, and diuretics. The patient gradually grew worse and died on July 30th.

Post-mortem report, taken in the absence of the hospital pathologist, is as follows, in reference to the organs at issue: Heart area about normal; upper lobe of left lung contains numerous fibromata and tuberculous cavities; lower lobe contains much air. Right lung, numerous fibromata throughout, cavities at apex; marginal emphysema (vicarious). Spleen enlarged, capsule thickened, pulp anemic.

Left kidney showed the following: Fatty capsule of normal abundance; tunica propria removable with ease. The kidney was pale; the remains of a septic infarct and several cysts were observable on its surface; cortex pale and cortical markings indistinct. No evidences of suppurative processes in this organ.

Right kidney: The fatty and fibrous capsule are so intimately adherent that they are detached together. The fibrous capsule is distinctly thickened. The kidney itself is enlarged in both length and breadth to about double its normal size. The surface of the kidney shows two kinds of depressions; one kind, shallow, the remnants of uncompleted development; the other, decidedly deeper, to a degree that makes the surface resemble that of the brain. These deeper grooves are the expressions of pathological changes in the deeper parts of the kidney structure.

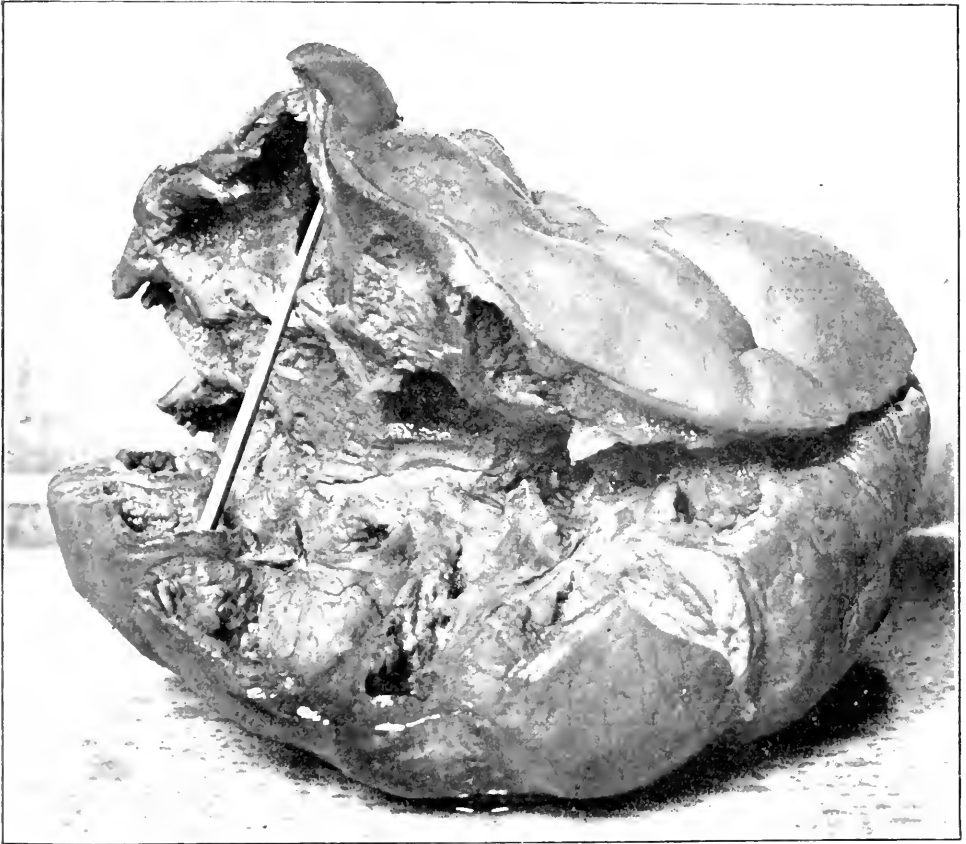
On incising the organ through its convexity, numerous suppurating cavities are presented, varying very little in size, for the most part being about the size of a walnut. The depressions described as presenting on the external aspect correspond to the walls separating the cavities, while the large convolutions on the surface represent the outward bulging of the cavities.

The inner surfaces of the cavities are roughened, granular, and covered with a grayish membrane and the detritus of suppuration; the cavities are filled with pus. The walls between the cavities represent kidney tissue—the columns of Bertini. The cortex in some places is reduced to one-half its thickness, but in most places it is almost entirely gone. The cavities have evidently taken the place of the papillary zones, which are absent, showing that these zones were the points of first attack: that is, that the infection came from the pelvis and collecting tubules, from there spreading to the intermediary zone and gradually absorbing the excretory structures while the secretory portion, represented by the cortex and columns of Bertini, suffered indirectly.

The ureter leading from this organ was largely dilated and thickened, and also contained a quantity of pus. The report does not state whether the ureter was patent or not.

A specimen of pus taken from this kidney by Dr. Gradwohl, bacteriologist to the hospital, was examined microscopically and subjected to culture experiments. Under the microscope, diplococci were ob-

Fig. 1.



Gonorrheal Kidney.

served within the pus-cells, and they responded, as do gonococci, to the Gram test, being free from stain by washing. Inoculations were made onto sterilized media, as proposed by Young and Hagner (urine-agar), and pure cultures of the same diplococci were the result; and these, also, responded to the Gram test.

Together with the kidney-specimen, I herewith present one of the

tubes of culture-growth and also a cover-glass preparation of some of the cultivated gonococci.

A section of the kidney in the shape of the letter T was taken and examined by Dr. Hugo Summa. In the section, the horizontal part of the T represented the cortical portion of the kidney, while the vertical represented the column of Bertini; on each side of the Bertini column was a wall of the suppurating cavity, covered with inflammatory detritus.

The section showed pronounced changes in the interstitial tissue. Almost all the glomeruli were surrounded by a thickened Bowman's capsule.

The Malpighian bodies and the various kinds of glomeruli were widely separated by connective tissue which, particularly toward the cavities, was very rich in deeply-stained nuclei. It was easy to distinguish three zones. Next to the detritus lining the cavity-wall was a more or less continuous wall of small-celled infiltration, similar to the formation often seen in malignant growths. The next zone shows uriniferous tubules widely separated by such an aggregation of deeply-stained nuclei as to clearly represent foci of miliary abscesses. The third zone, representing the peripheral parts of the cortex, shows the parenchyma of the labyrinth decreased at the expense of the interstitial framework, which is markedly less rich in nuclei. This, in connection with the fact that quite a number of the glomeruli are located directly under the surface of the fibrous capsule, shows that the kidney was the seat of an older process of connective tissue formation.

The secreting cells—the parenchyma of the kidney proper—was in marked contrast to the pathologic changes of the connective tissue. Aside from a very limited necrobiosis, only atrophic processes could be seen.

The microscopical diagnosis was, then, nephritis interstitialis acuta, in a kidney which had been, for some time previously, diseased in its framework.

In looking up the literature I have found a surprising deficiency in regard to reports of established cases of gonorrheal kidney. Whereas, the clinical manifestation of gonorrheal pyelitis or pycelonephritis is apparently considered not so very rare, the actual demonstration of the condition by pathologic and bacteriologic investigation is, I believe, quite rare. For instance, in the *Berliner klinische Wochenschrift*, April 6, 1896, is mentioned a report by Mendelsohn, before the Hufelandsche Gesellschaft, of a patient whom he presented before the Society, a man 70 years of age, who had been ill for about a year with anasarca and other evidences, which had been diagnosed as simply

renal dropsy. Later, Mendelsohn found an almost impermeable stricture of the urethra, and gonococci and casts in the urinary sediment, from which he interpreted the condition as one of gonorrheal pyelonephritis. The various symptoms were relieved by dilatation of the stricture and treatment of the urethra. In the report there is no mention of any means having been undertaken for tracing the gonococci to either kidney with the aid of ureteral catheterization, etc. So that the exact status of this case must remain in a certain amount of doubt; it is not a proved-up case.

Finger, in the *Wiener medicin. Presse*, July 25, *et sequentur*, 1880, contributes an interesting discussion, "Ueber Cystitis und Pyelitis blennorrhagica," on the clinical manifestations of the affection, but does not report any actual post-mortem demonstration of it; and, in a personal communication to me this winter, Dr. Finger said that he had never seen such a demonstration.

There are a number of allusions to such cases in current literature, but when it comes to the final and exact demonstration of the gonococcus as the causal factor in them, they are lacking.

Indeed, there seems to be a great deal of confusion with regard to what is meant by the term, gonorrheal pyelonephritis—as to whether it means an invasion of the gonococci, or simply a post-gonorrheal infection with secondary organisms; both conditions are spoken of indifferently as "gonorrheal."

In the *New Yorker medicinische Monatsschrift*, April, 1897, Dr. Arpad Gerster makes a report that is not dubious, referring to a case of demonstrated gonorrheal pyelonephritis which was double-sided: "J. J., a boy 10 years old, on his way from Europe to this country, acquired gonorrhea on the steamer; it was quite noticeable at the time of his arrival, April 30, 1896. Severe inflammation, stranguary, and fever developed about May 15th, followed, some days later, by vomiting and marked pain in the loins, with a discharge of large quantities of pus mixed with blood, from the urethra. At the time of the patient's admission to the hospital, May 30th, his condition was as follows: Cyanotic, algid, somnolent. Temperature 101.4° F., pulse 130. Copious purulent discharge from the urethra, from which, at short intervals, cloudy, bloody urine escaped, a dram at a time. The latter contained much albumin, pus and blood; was alkaline, with specific gravity of 1030. When the young patient was presented to me the next morning I found, in addition to the above-described condition, both kidneys, especially the right, however, much enlarged and very tender to pressure. The urine drawn off during the night had been only eight ounces. I therefore determined on immediate double nephrotomy.

"The patient was easily chloroformed and the right kidney laid bare. The renal fat was very edematous, the kidney itself enormously enlarged and tense. No bleeding followed incision of the cortex, but dark-brown, fetid, decomposed serum oozed out. Similar serum escaped from the pelvis. Drainage and tamponing followed, during which, however, the pulse became so bad that further operation had to be deferred and the patient was hastily returned to bed. He recovered from the collapse but the previous condition remained unchanged; the urine became less and less, and death followed twenty hours after the operation, the temperature being 105° F.

Autopsy gave the following: Both kidneys enlarged, the right especially so; it was about double the normal size. The left kidney severely congested and its lower portion held an abscess containing 4 c.c. of pus. The right kidney contained a countless number of abscess cavities, varying from the size of a millet-seed to that of a cherry. The capsule was strongly adherent, cortex thickened, and a large number of additional abscesses were disclosed by removing the capsule. In the lower portion of the kidney was a large, broken-down blood-clot. The ureters were normal with the exception of the lower third, which appeared intensely congested. The bladder-wall was much thickened, its mucous membrane hemorrhagic. The prostate was enlarged, slightly congested, and contained an abscess that held 2 c.c. of pus.

"Cover-glass preparations of pus taken from the kidney showed staphylococci and gonococci in large numbers. Blood-serum and sugar-agar cultures of the same pus gave the gonococcus and the staphylococcus albus. Cultures of the urethral pus remained sterile, probably because the patient had urinated immediately before the taking of the pus for examination. Microscopic sections of both kidneys showed unmistakable pyelonephritis and abundant colonies of gonococci and staphylococci, after the method of Loeffler, and the gonococci were decolorized without exception by the Gram method."

Under the title, "Pyonephrosis Complicating Gonorrhea," Dr. Cumston (*University Medical Magazine*, June, 1899) reports a case of pyenephrosis that developed in connection with an acute urethritis. There were chills and fever, temperature 38.5° C., the urine showed bladder-cells, large numbers of leucocytes, a few red blood-corpuscles, cells of the renal pelvis, casts, and considerable albumin. The various symptoms present increased in severity for nearly three weeks, when a tumor developed in the left loin, extending to nearly the median line. Nephrotomy evacuated about 1250 c.c. of pus, the procedure was followed by tube-drainage for nine days, after which the wound was al-

lowed to contract; at the time of the report, there was still a fistula, through which urine drained constantly.

The author presumes that this was a case of gonorrheal pyonephrosis because, as he says, there was no history of traumatism nor of anything that would indicate the presence of nephrolithiasis, neoplasm, or any pathologic condition, and there was the acute specific urethritis to antecede it; but at the same time, he says that the pus taken from the kidney was found to be deprived of any bacteria, on culture and microscopical examination. He accounts for this on the ground that fever will cause gonococci to perish after they have produced their havoc in the form of the suppurating process.

While the clinical history of this case points to gonorrheal infection of the kidney, or at least to secondary infection following the gonorrheal attack, it must be admitted that the diagnosis is not supported by definite proof. In the first place, no reference is made to the finding of gonococci in the original urethral discharge; and the author's contention that the absence of the gonococci in the pus taken from the kidney was fully explained by the high fever that had been present, does not seem justified in the light of other cases—that of Gerster's, for instance, in which, after the existence of a temperature of 105° , numerous live gonococci were demonstrated, both by the microscope and by culture methods. There had been fever in my case, also, but it did not interfere with the continued development of the same organisms, even in pure culture.

Therefore, admitting that the pyonephrosis resulted from gonorrheal urethritis, in the case of Dr. Cumston, it is not certain what organisms caused the extension—whether gonococci or secondary pyogenic microbes. In Dr. Gerster's case both the gonococcus and the staphylococcus albus were found in the kidney pus; while in mine, no organisms were present but the gonococci.

In the writings on this subject there seems to be much confusion on this point: and yet definite distinction, it would seem, should always be made where possible.

As rarely as gonorrheal pyelonephritis is recognized in the individual, it is probable that the cases in which the infection is only from gonococci, exclusive of other organisms, are much rarer still. In his masterly work, "*Les Complications locales et generales de la Blennorrhagie aiguë et chronique chez l'homme*," page 219, 1898, Guiard says: "Ascending uretero-pyelonephritis exclusively of gonorrheal origin is far from frequent"; and, later, in referring to the subject of the etiology (p. 220), he says: "The studies undertaken up to the present time do not permit the affirmation, based on a sufficient number:

of cases, as to what is the part that is played by the gonococcus and what by the microbes of secondary infection. In any case, the only observation in which the gonococci have been found in the kidney is that of Bockhart (1896); and many authors question the proof in this case. According to the works of Clado, Albarran, Halle, Krogius, Reblaub, Melchoir, it is probable that the pyogenic streptococcus, the staphylococcus aureus or the coli bacilli represent the true pathogenic agents of uretero-pyelonephritis." This was written in 1898, and the bibliography of the world was at the disposition of the learned author.

On the Mode of Access to the Kidneys.—Why a real and exclusively gonorrheal invasion of the kidneys should be rare, I am at a loss to understand. The organisms certainly have sufficient avenues for reaching there, and they have been found many times in localities and under conditions that would make their direct removal thence into the kidneys a thing of no difficulty, whatever, apparently.

It is possible for the infecting agents under discussion to reach the kidneys in three ways:

1. Ascending infection by continuity, along the mucous membrane of the urinary tract.
2. Ascending infection through the lymphatics accompanying the ureter.
3. Metastasis or general infection.

In the first mode the infection is carried progressively along the mucous membranes of the urethra, bladder, ureter, pelvis, and thence into the renal tubules. (The specimen that I present was infected in this way.)

The second is more direct and, probably, more prompt in its completion. Bearing on this avenue of lymphatic communication, Robert Newman, in his "Lectures on the Surgical Diseases of the Kidneys," page 184, 1888, has this to say: "While conducting a series of experiments some years ago, I noticed that when an injecting mass was forced into the ureter, occasionally it found its way into the renal substance, and on further investigation I ascertained that the lymphatic cells of the cortex might be very completely injected through the lymphatic channels surrounding the ureter. The course which the lymphatics pursue from the bladder is one of direct distribution along the connective tissue surrounding the ureters to the capsule of the kidney. Then they penetrate the renal substance and lie in spaces between the uriniferous tubules, so that when, in a kidney thus infected, a section is made of the cortex, the lymphatic vessels can be easily seen extending in thin streaks from the extreme cortex toward the medulla, and becoming paler in color as they pass from without inward. This

method of injecting the lymphatics shows very clearly that there is a communication between the lymphatics around the ureter and those supplying the renal substance."

Albarran (*Annales des maladies des organes genito-urinaires*, page 503, 1899) showed that this lymphatic communication could not be interrupted even by ligating the ureter. He injected pathogenic bacteria into the ureter and at the same time ligated the organ, but bacterial invasion of the perirenal tissues was determined, the microbes following the lymphatic channels.

The mode and sequence of attack on the kidney, in the ascending infection, would necessarily depend, therefore, on whether it be effected by continuity of mucous membrane or by lymphatic transmission. If the former, the pelvis and tubules would be the first to suffer; if by the lymphatics, the cortex first succumbs.

That there is difference in the mode of transmission upward from the lower urinary tract, I am convinced, not only from analogy with my long-standing conviction with reference to the modus of infecting the posterior from the anterior urethra (as expressed in a paper, entitled "The Rôle of the Posterior Urethra in Chronic Urethritis," read before this association in 1893); but also from many clinical observations and reports. Dowd (*Medical Record*, June 25, 1898), in discussing the infrequent recognition of gonorrheal pyelitis, says: "The misleading point has been in assuming that the inflammation of the bladder must precede the involvement of the kidney pelvis. I have in a number of cases found the bladder free from any involvement, the cystoscope showing only one or two reddish streaks, apparently under the mucous membrane, extending from the urethral to the ureteral openings. The condition appeared to be extension by lymphatics, and not by continuity." Israel, Ebstein, and others report cases in which ascending pyelonephritis was not preceded by indications of active cystitis, etc.; on the contrary, the bladder seemed to be quite free from involvement.

The third of the three modes mentioned for accomplishing gonorrheal infection of the kidney is that by means of the circulatory systems, the lymph and blood channels, *i. e.*, by metastasis.

That their invasion should be effected in this way should not be a matter of surprise in view of our present-day knowledge of the migratory propensities of these organisms and their potency for evil in attacking almost every organ and tissue of the body. When we know that they get into the heart and its valves, into the brain and its membranes, the cord, the pleura, the joints, sheaths and tendons, the muscles and skin; and we recognize their malign presence not only

by the damage to which they give rise, but also by direct demonstration under the microscope; and when we further demonstrate them as actually existing, alive, in the circulating medium of the body, the blood, which must necessarily penetrate and bathe every organ of the body in its circuit, it could hardly be expected that the kidneys would remain exempt from their attacks in this manner. I wish to present here a culture-tube of urine-agar on which, two months ago, was inoculated for me by my friend, Dr. Gradwohl, some of the blood from a patient of mine, who was suffering from quite a generalized attack of gonorrheal rheumatism. Three sterile tubes were used; two of them grew abundant colonies of gonococci that responded to the Gram test and the other means for differentiating gonococci from other organisms; and succeeding generations of gonococci were cultivated from these, and gave similar responses to the tests. At the time of making the tests, the patient had an active purulent discharge from the urethra, which he had been trying to relieve, with various means, for about a year; and this discharge was loaded with gonococci, as may be seen in the cover-glass preparations here shown.

Gonorrheal nephritis from an infection occurring through the lymphatic and blood systems, as just mentioned, is an established fact. Luxcey, in a paper entitled "*De la nephrite parenchymateuse comme complication intercurrente d'une blennorrhagie*," 1879, was the first to call attention definitely to the possibility of a renal complication of gonorrhea by metastasis. Since then, it has been studied systematically by several authors, among them being, chiefly, Souplet, Jacquinet, Balzer, and Geraud. These writers look upon albuminuria, aside from that for which the pus would be accountable, as one of the principal symptoms of the disease. In 424 gonorrheal cases, Balzer and Souplet found albuminuria 99 times; in 21 of these cases they were uncomplicated otherwise, but in 73 of them there was orchitis. In this series and in others it has been noticed that albuminuria is especially liable to occur in the cases in which there is the complication of orchitis; from which was deduced the belief that the danger of renal complication is augmented in proportion to the extent of surface involved in the complications of the urethral gonorrhea. The greater the surface involved the larger the port of entry for the general infection.

A study of the clinical features of this affection is interesting, but does not come within the intent of this paper.

627 Century Building.

A CASE OF EPIDERMOLYSIS BULLOSA.

BY CHAS. P. RUSSELL, M.D.,

Consulting Dermatologist to Taxton and St. Elizabeth's Hospitals, Utica, N. Y.

THE report of a very rare or unique dermatosis is always of interest and sometimes instructive, inasmuch as we may be able to establish points of differential diagnosis between it and others that roughly resemble it.

I desire to report the following case of epidermolysis bullosa as a contribution to the, as yet, meager list of cases on record:

Christian Weber, an eight-year-old schoolboy, was brought to me by his grandmother, June 1st of this year (1900). He was born in Alaska, where his father was a missionary of the Moravian Church. He is an orphan, having lost both parents by shipwreck when he was five years of age. Since then he has been in charge of his grandmother. Had measles when two years old, no sequelæ, and since that time has been an ordinarily strong, healthy lad with the exception of the eruption which forms the subject of this report.

His guardian states that he had the disease he now has when he came to her three years ago. The boy himself thinks he had the disease for a long time before he left Alaska, but the history as to the time of its first appearance is defective. It seems reasonable to assume, however, that it has been in existence for at least five or six years.

When he first came to me the history was that he had been almost constantly troubled with recurring large and small bullæ, forming usually over the joints or wherever the integument was tightly stretched over the bones.

It has been noted that the bullæ had in nearly every instance arisen over or very near a joint, and generally in response to a slight blow or trifling bruise. Some, especially those not directly over a joint, seemed to the grandmother to have arisen spontaneously. The knuckles have always been a favorite location for the formation of the bullæ, and both hands have suffered about alike. Here they have varied in size from a split pea to a dime, although about the wrists and ankles they have frequently attained a very large size, some as large as a half dollar, while over the knees, as well shown in the accompanying picture, they are three or more inches in diameter, forming large, bulging sacs, distended with straw-colored serum.

It has been noted by both guardian and parent that when an unusu-

ally large bulla was about to form that there would be a slight raising and swelling of the skin, and that it would appear to be somewhat congested. This initiatory hyperemia I had occasion to observe in a newly-formed bulla near the right knee-joint. The disease has always affected the lower extremities most severely. On the upper extremities the lesions have seldom formed on any other location than the finger-joints, although at times they have appeared about the wrists and elbows. The patient when first seen presented large discolored areas near the point of the elbows, in the typical location of psoriasis. The boy has not at any time been entirely free from bullæ somewhere on the knuckles, which is not strange considering their liability to frequent raps and bruises, together with the fact that he is attending school.

When he came to me at the first visit, an examination showed some dozen or more recent and new bullæ in varying stages of acute development and decline. He had an enormous bulla over the anterior aspect of each knee-joint, well shown in the accompanying picture taken three days after his first visit at my office.

The lesions here shown were substantially those observed when I first saw him and are so well portrayed as to render a detailed description of them unnecessary.

As showing how readily these peculiar bullæ are evoked by pressure is the fact that a large swelling, topped by a bulla involving the lobe of the ear, followed a slight pull on that organ in school.

The accompanying photograph shows well the peculiar shape of some of the lesions. In no other vesicular or bullous disease I have seen, have I ever met with such irregular forms. The one below the left knee and also the one over the left internal malleolus are not the result of the fusion of separate and adjacent bullæ but are primary lesions of a typical form.

As regards the etiology of this case, the lad presents no symptoms whatever of any organic disease of the nervous system. He is strong and well, has normal tactile sensation and muscular action. He has not a pain nor ache except slight tenderness in the raw surfaces left after the bullæ have broken. The only marked functional nervous disturbance is hyperidrosis. The boy perspires quite freely even in winter, and has as long back as he can remember. This has been a marked feature of nearly all the cases brought before the New York Dermatological Society. Nothing is known definitely as to the causes of this unique and, happily, rare affection.

In the majority of cases reported a hereditary influence can be traced, although Eliot and a few other observers have seen cases in

which the most careful inquiry into the health of ancestors has failed to show this as a causative or predisposing factor.

Eliot has stated that the disease is due to "a hereditary or ac-

Fig. 2.



Epidermolysis Bullosa.

quired abnormal irritability of the cutaneous vesicular system, but beyond that we know nothing." This very careful observer has worked out in a very thorough manner the histopathology of epidermolysis

bullosa. In Vol. 13, No. 1, of JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES, and in the *New York Medical Journal* for April 21st and 28th, of this year, can be found an exhaustive treatment of the microscopical anatomy of this disease.

ANNOUNCEMENTS.

PARIS, Aug. 9, 1900.

The fourth International Dermatological Congress, under the Presidency of Dr. E. Besnier, has just ended, and was most successful in every way. The next Congress will be held in Berlin. Dr. J. Nevins Hyde of Chicago, Dr. Henry W. Stelwagon, of Philadelphia, and Dr. J. Caspar Gilchrist of Baltimore were present to represent the American Dermatological Association and to extend the invitation in behalf of the latter Association for the next Congress to be held in New York. It seems, however, that Berlin had a claim for the Congress for this year (1900), but that at the last Congress, held in London, the French representative requested as a special favor, owing to the Exposition, that it be held here. This was conceded, but the moral work was promised that the Berlin should have the next. The American representatives above learning these facts, graciously stood aside, and gave their support to Berlin. In return for this courtesy the moral work of the Congress was given the American representatives that the United States should have the Congress following Berlin.

(Communicated by a valued correspondent of the Journal.)

Society Transactions.

AMERICAN ASSOCIATION OF GENITO-URINARY SURGEONS.

*Fourteenth Annual Meeting, Held at the Raleigh Hotel, Washington, D. C.,
May 1, 2 and 3, 1900.*

IN CONJUNCTION WITH CONGRESS OF AMERICAN PHYSICIANS AND SURGEONS.

FIRST DAY—MONDAY, MAY 1.

Chronic Pyelonephritis and its Pathogenic Relation to Diseases of the Opposite Kidney.¹—DR. JOHN P. BRYSON, of St. Louis, Mo., read this paper, and his observations suggested the following conclusions: (1) Post-operative observation in a number of cases of primary unilateral nephrectomy as well as secondary nephrectomy after nephrotomy and drainage, seemed to confirm the belief that long-continued unilateral pyelonephritis had a pathogenic effect upon the previously unaffected kidney of the other side. (2) This pathogenic relationship seemed to hold good even when the primarily diseased organ was adequately drained either by the ureter or by a renal fistula. (3) Observations, as yet inadequate, seemed to show that the pathogenic effects upon the organ secondarily diseased manifested themselves primarily in the tubular epithelium, determining a parenchymatous nephritis. (4) Suppurative pyelonephritis seemed to add the element of amyloid degeneration to the secondary nephritis; but whether this change took place in the kidney before other viscera well known to be commonly affected in this way by chronic suppuration became involved, was wholly undetermined. (5) The mechanism of this secondary nephritis was not yet determined. Whether it was caused by the "reflex" action through the nervous system, or by the absorption of toxins or bacteria from the primarily diseased kidney carried by the blood stream to the other kidney, increasing its burden of elimination, and thus irritating the tubular epithelium, seemed to be a question for the experimental laboratory. (6) So far as our information went at present, it served to increase the probable benefit of frequent observation of the segregated urines, which might serve not only to localize the disease, but to determine the time of surgical interference by giving warning of the beginning of crippling of the previously healthy kidney. (7) Repeated observation of differentiated urines had a distinct prognostic value in surgical intervention, even to the extent of influencing the choice of nephrectomy and nephrotomy.

Some Observations upon Hydronephrosis.—DR. A. T. CABOT of Boston read this paper. He instanced the history of a boy, eleven years of age, who during the past nine and a half years had had repeated attacks of severe abdominal pain. During these attacks it was noticed that there was a swelling in the left renal region which diminished with the subsidence of the pain. These attacks were accompanied by fever and vomiting. During later years the attacks lasted a number of days. The diagnosis of hydronephrosis, already made, was concurred

¹ Abstracts by kindness of *Medical Record*.

in and operation advised. The operation showed it to be a case of ruptured hydronephrotic sac with a pseudo-hydronephrosis around it. The rent in the dilated kidney was closed in the hope that the urine would re-establish its passage through the ureter, as had happened often before. This hope was not gratified. At the end of twenty-four hours the pseudo-hydronephrotic sac filled and became very painful; then the hydronephrotic sac was again opened and a drainage tube was introduced, which was followed by complete relief, and the boy gradually recovered his strength. In this way he lived for two years without pain, when he entered the Massachusetts General Hospital for the relief of the urinary fistula. Before proceeding to operation it was thought wise to increase the secretion of the kidneys, which were acting insufficiently. As the hydronephrotic kidney was discharging all of its urine through the fistula, it was possible to collect the secretion from each organ separately, which was done. It was interesting to note how much good work was done by a kidney in which the secreting substance was stretched out to a mere shell on the surface of a hydronephrotic sac; also, how decidedly this work could be increased by the diuresis produced by the exhibition of large quantities of water. By this simple diuresis the total amount of urine was increased from eighteen to seventy ounces, and the amount of urea was increased from 11.07 gm. to 16.73 gm. Having improved the condition of the patient, the hydronephrotic sac was exposed and stripped off from the surrounding tissues. When the hilus was reached, the ureter was readily recognized, and the following condition was made out: The ureter, of normal size, after leaving the pelvis of the kidney, pursued the ordinary course toward the bladder for a distance of an inch, when it turned backward and upward to loop itself over an accessory artery which ran from the aorta and entered the kidney at a point somewhat below the origin of the ureter. This loop was S-shaped, and while the canal was of nearly normal size above the point where it hung over the vessel, below that point it became very narrow with extremely thin walls. The ureter could not be followed with a probe, and it was shown that this undeveloped condition of the ureter continued down toward the bladder. It was then decided to remove the kidney; this was done, and the patient made a good recovery.

Report of Some Cases of Renal Surgery, with Remarks.—By DR. FRANCIS S. WATSON of Boston.

DR. EDWARD L. KEYES of New York.—I may say a word or two about hemorrhage, etc., due to kidney tension and its relief by splitting the capsule. I have had three or four, perhaps five, cases in which exploratory operations were done upon the kidney for symptoms simulating stone in the kidney, two of them associated with active renal hemorrhage. One very notable case is the following: A man came from a distant city with the idea that he had a stone in his kidney; a stone was found in his bladder, the removal of which relieved him of symptoms. Two years later he returned with a diagnosis by his local surgeon of stone in his bladder; the stone was searched for in the bladder unsuccessfully. Hemorrhage was profuse and plenty of blood casts of the renal tubules were found. I explored the kidney for stone; it was not then my habit to open the kidney and examine the calices with my finger. I punctured the kidney thoroughly with a long needle, but found nothing. Therefore, I split the capsule. In two weeks the patient was perfectly well. His hemorrhage ceased entirely and never recurred. He died in the second year after operation of cerebral apoplexy. I could cite other cases in which I only split the capsule for hemorrhage and the patients did perfectly well. As to stone it seems to me so difficult to find one in some

cases that we may as well adopt it as a routine practice not only to split the capsule when there is hemorrhage from the kidney with suspicion of stone, but also to penetrate the organ, making a hole large enough to get the finger in, in order that we may explore all the pelvis of the kidney thoroughly. There is no objection to splitting the kidney substance itself. I do not know but what it would be justifiable in every case of suspected stone and in obstinate nephralgia to cut down upon the kidney and split it, even if there be extensive interstitial nephritis (granular contracted kidney); this is more or less of a therapeutic measure.

One of the most suggestive cases that I have ever encountered is the following: I was asked to go into the country and take out a stone from the kidney. The doctor, a very competent gentleman, made the statement that he had diagnosed an abscess in the right kidney, which had opened into the ascending colon and was discharging continuously by the rectum a purulent, purid material, sometimes bloody. The urine was purulent and more or less offensive (bacterial). The patient had been in bed many months, and was a weak man. The urine was of a very light specific gravity, was full of granular casts and albumin. Recurrent nephralgia was a feature and uremic gastritis was present. I examined the patient and thought I could feel the right kidney, but I was not sure. I cut down upon it and stripped it of its fatty capsule and thoroughly examined it. There had been no abscess in that kidney, nor were there any adhesions between it and the ascending colon. The kidney was distinctly granular, small, contracted. The pains had been intense, particularly on the right side. The kidney was split and the entire pelvis was examined by the finger; nothing could be found. Disappointed in my search and suspecting trouble on the other side because it was alleged that stone had been passed, I then opened the other kidney, splitting it in the same way, examined the pelvis with my finger, and found nothing. I made a bad prognosis and went home. The patient had considerable trouble for a week or two. At the end of one month she got up and, one year later, was apparently perfectly well. There still are granular casts and albumin, but there has been no return of the paroxysms of pain, and the patient is up and about enjoying life and entertaining her friends, to all appearances, as well as any of them.

DR. L. BOLTON BANGS of New York.—The question which Dr. Bryson has raised interests me not only because of some observations that I have made, but because of its practical bearing. If we can solve some of the conditions of the other kidney before operating we can be rid of a point that has concerned surgeons for many years.

As to the pathology of the condition to which he refers I do not think anything definite is known regarding it. Two years ago I operated upon a gentleman who was in extreme danger. He had had a prostatic abscess which had opened into the rectum and had left a residual abscess, which was opened and drained through the perineum. The symptoms persisted and the man seemed to be dying of sepsis from a suppurating left kidney. The right kidney also was distinctly enlarged and was tender. Nevertheless, the left kidney seemed to be the most dangerous one, and I resolved to operate upon him. I opened a large abscess in the left kidney; this was drained through the loin and the man made an excellent recovery. The right kidney was carefully watched and the evidences of disease of that kidney disappeared. So far as is evidenced by his general condition there is now no evidence of disease of that organ. The patient still has catarrh of the bladder; he is draining through the loin and through the rectum. By means of the tube in the right loin I can make an injection through it and

have the fluid appear in the rectum. The man has gained 40 pounds in weight; he travels; he has become plethoric; he is not incommoded by his sinus and absolutely refuses to have anything done further. In this case there was an apparent recovery of the right kidney which, so far as a surgical examination could determine, was diseased before operation. Cases of primary infection with tuberculosis may come under this head. One kidney may be apparently well while the other may go on to degeneration.

Discussing the cases of hydronephrosis—this seems to be a disease which manifests itself in many varieties and is very interesting on account of etiology and treatment. One year ago I had a lady of eighteen years brought to me with a history analogous to that read by Dr. Cabot. I segregated the urine by means of Harris' instrument. There was a hydronephrosis of the left kidney apparently of congenital origin. She was running down and blood had appeared in the urine. I thought it wise to do a nephrotomy for draining purposes and to evacuate the large sac. As I cut into the kidney there was a sudden gush of blood, and my finger revealed a large pulpy kidney converted into a sac which bled freely; this sac was held open and deluged with hot water which controlled the hemorrhage. The kidney was drained for one year. During this period many observations were made regarding the elimination of substances by the urine from each kidney respectively. For example, when urotropin was exhibited by the mouth, the kidney which was draining would eliminate it as formaldehyde as determined by appropriate tests; therefore, the statements regarding urotropin were shown to be true. In this case, the question of nephrectomy subsequently came up for consideration. Referring to the question raised by Dr. Bryson there was apparently an *irritation* of the right kidney, as shown by an exfoliation of epithelium, etc.; and I refused to do a nephrectomy until it was demonstrated to me that the right kidney could do the work exacted of it. Two weeks ago I did the nephrectomy. The operation proved to be a formidable one. The kidney tissues bled very freely and it looked dangerous for a few minutes; I was compelled to wrap the kidney up and hold it firmly in one hand while the adhesions were being separated with the other. The anatomical structures were firmly matted together, and I had to leave a portion of the tunica propria. Hemorrhage ceased when the pedicle was reached and a clamp placed upon it. Here is an interesting point: The young woman suffered a good deal from shock and I had to give saline solution by the rectum frequently. During the first twenty-four hours after the nephrectomy the remaining kidney excreted *ninety-eight* ounces of urine. Thus was a large amount of urine with a low specific gravity excreted rapidly by the remaining kidney; and when the saline solution was stopped the amount of urine excreted gradually reduced to fifty-three ounces. Subsequently nineteen ounces were excreted on one day, but the amount usually ran from twenty-seven to thirty ounces or thereabouts.

The cases in which the kidneys present symptoms of renal calculi and in which no stone is found are puzzling. I have had such cases. There was one striking case in which I felt certain a stone was present, but in which the X-ray gave no help. The patient had had frequent attacks of pain in the kidney and a stone had passed from the urethra; the repeated attacks had almost prostrated the man. Finally I operated upon him in the belief that I would find a stone in the kidney; but found none after the most careful and thorough examination.

The kidney was a large one; its capsule seemed tense; but no calculus could be found. I incised the capsule from one end to the other and the patient had no more pain from the kidney. The patient since returned to his work.

DR. FRANCIS S. WATSON of Boston.—Regarding the use of the X-ray in the

diagnosis of renal calculi I have had unsatisfactory results. Dr. King suggests to me a case in which the use of the X-ray told me nothing. This patient was sent across the ocean to get rest; two weeks after his arrival he passed a stone through the usual channels.

DR. GEORGE CHISMORE of San Francisco.—The condition of the remaining kidney in renal cases is certainly an interesting question, and several years ago I had the pleasure of reporting to this society, early in its career, an instance of a young gentleman who was seen by Drs. Keyes and Van Buren. I saw him early in 1870. After a very severe illness lasting many years with symptoms mainly attributable to his bladder, he wound up with a lumbar abscess, which was opened; this abscess filled and was opened again and again and, at last, he made an apparent recovery; in that instance the entire kidney was lost. The point of interest centers in the condition of the remaining kidney. In 1877 the man was apparently in the last stages of consumption. In addition to his renal and bladder difficulty he had a fistula present, apparently of tuberculous origin. In course of time this fistula healed spontaneously. There has always been albumin in the urine and there is to-day a certain amount of it present. That young man recovered so completely that, after the lapse of nearly thirty years, he is living in comparatively good health.

DR. EDWARD L. KEYES of New York.—Were any tubercle bacilli found?

DR. GEORGE CHISMORE of San Francisco.—Tubercle bacilli were not found.

DR. JOHN P. BRYSON of St. Louis.—In the history cited by Dr. Chismore the idea of a tuberculous lesion is carried out. Tuberculous foci have periods of activity and periods of repose; they are not uncommon. In the third case in my series that idea is carried out. The right kidney, which was originally involved, was decidedly involved in the inflammatory process, secreting four or five times more urine than the left kidney, with a specific gravity reaching from 1002 to 1005. Then, on exhibiting anti-tuberculous remedies and other treatment, that kidney still excreted a large amount of urine. Previously, the left kidney had excreted urine the highest specific gravity of which was 1021. For that reason I made the remark that the element of tuberculosis entered there and obscured the observation. To illustrate that I should like to mention a case on which I operated four years ago. This man had a double tuberculous nephritis; both kidneys were enlarged and blood and pus and tubercle bacilli were found coming down from both kidneys. There was, also, a tuberculous cystitis and the prostate was involved. I took out the right kidney which was enormously enlarged and distinctly tuberculous. A long twelve or thirteen-inch incision had to be made in order to get to the kidney. The man made an excellent recovery and is living to-day. He has gained in flesh. He could not bear a prolonged operation required in doing a ureterectomy. A fistulous tract was left which has since closed. The remaining kidney is doing satisfactory work, but is reduced in size as determined by palpitation. It seems to me that the mere question of urea excretion is not of much importance as compared with other cases. Dr. Bangs' cases seem to confirm the idea that impressed me and others, namely, that pyelonephritis, whether suppurative or not, has a tendency to involve the opposite organ. Just a short time ago I removed an epitheliomatous kidney on the left side; the right side seemed to be involved. I am keeping that case under observation and watching it with great interest. The questions concerning the condition of the other kidney are those that cry out for solution and, I think, the best opportunity is afforded by the segregation of urines. Any instrument or appliance which enables us to do that with least pain should be selected.

In regard to the cases of Dr. Bryson's there were two points which were not mentioned and which might clear up the diagnosis of the cause of the pain. It was observed that he did not explore the ureters. He did not say that there was no considerable displacement of the kidney. My own observations, especially in operative work, have lead me to believe that displacements of the kidney may cause a good deal of pain and will escape detection unless searched for; the kidney leaves its bed and may turn or rotate on its long axis and this may account for the pain. Deformities, or variations in the anatomical distribution of the blood-vessels, may be present and it can be readily seen how such pain can arise and be cured by fixation. In many of these cases the kidney slips down and kinks the ureter. Dr. Watson spoke of a pain which ran into the testicle, *i. e.*, a genito-urinary symptom. In that instance I should suspect the source of pain would be found in the neighborhood of where the ureter crosses the bifurcation of the common iliac; for it is there that the ureter receives branches from the genito-crural nerve. While the discussion of this point is of great importance I should say that the case was hardly a good one for purpose of illustrating the points raised. No mention was made of exploration of the ureter and nothing was said as to the movability of the kidney. I have in mind several cases with symptoms of hematuria, accompanied by nephralgia and colic, where an exploratory observation cleared up the diagnosis. One case was that of a boy, fourteen years of age, who complained of great pain occurring occasionally, which was always followed by hematuria. There was passage of clots without vesical symptoms whatever; the clots were soft and irregular in shape. This turned out to be a case of partition of the right kidney by fibrous bands crossing over it causing a furrow throughout. This occurred just below the middle of the hilus of the kidney. The kidney was not opened, but the division of the fibrous band completely relieved the patient. These cases of nephralgia, without visible lesion even upon operative interference, correspond closely to cases of calculus-anuria which Robson recently criticized. In many of these cases in operative work it is easy to overlook that point which is so important. For instance, in Dr. Cabot's case, it would not be easy to discover the lesion as he did.

In regard to urea excretion there are so many factors which increase and diminish urea that it seems to me it does not offer so good general surgical indication as the mere question of quantity and specific gravity; because it is not the urea that irritates the kidney, but the toxic substances, many of which are generated in the body.

DR. A. T. CABOT of Boston.—Regarding the matter of observing the work of the other kidney after operation I think, in order to make the observations as to the resumption of the work of the other kidney valuable after the removal of one kidney, a series of control experiments should be made after removing septic conditions in other parts of the body.

In reference to the relief of pain by splitting the capsule I have had several such cases. I remember one case in which pain was not a prominent symptom but persistent hematuria was. I split the capsule and explored with my finger. This operation relieved the persistent hematuria. Another case seen two years ago occurred in which this operation relieved pain in the course of the ureter. Before this case was transferred to me the patient had been in the medical ward of the hospital for some time under observation; this persistent pain was in the ureter at a point about one-half an inch below the lower edge of the kidney. There was also tenderness, and I expected to find a stone at that point. There was blood in the urine and symptoms of irritation. I operated, making a long

Israel incision, and exposed the ureter, which I carefully examined down to the pelvis, but I found nothing. The man was quite stout and the dissection was a deep one. I examined the kidney without cutting into it; I felt it all over, but I found nothing. The pain was entirely relieved by the operation.

Dr. Watson's case of rupture of the kidney reminds me of a case which occurred during the progress of a foot-ball game. I saw this patient three, four, or five days later, and found a distinct tumor in the loin. The patient was passing blood in the urine. He was not prepared for operation, the case being seen during the night. I decided to aspirate the sac with the intention of doing further work later if necessary. I drew off fourteen or fifteen ounces, perhaps more, of bloody urine and fluid. From that time the man got well and no further trouble; the fluid did not accumulate and he made a good recovery. It is probable that the rupture just went through the cortex and the fluid collected beneath the tight capsule.

A "Gonorrheal" Kidney. Demonstrated by Culture Methods.¹—By BRANSFORD LEWIS, M.D., of St. Louis.

DR. H. H. YOUNG of Baltimore.—This case is particularly interesting to me because, at the Johns Hopkins Society, in May, 1898, I reported a similar case. The patient was a man about thirty-six years of age. He had had gonorrhea five years previous, during which attack he had hematuria, epididymitis, and apparently a cystitis accompanying it. During this attack he suffered severely. He was irrigated for one week, after which there was considerable relief. During the succeeding four years he had continuously frequent micturition and suffered severely from bladder inflammation. One year previous he entered the Johns Hopkins hospital clinic suffering with chills, high fever and with pain on the right side. He was confined to bed for some time. He had frequent attacks of fever, chills, and pain on the right side, later appearing in the left side, being severe in character. After admission to the hospital there was dribbling of urine for one week, considerable fever, and occasionally chills. He had a greatly distended bladder reaching almost to the umbilicus and a slightly enlarged prostate. The kidney on the right side was extremely large. Wishing to get cultures from the bladder I aspirated suprapubically and found gonococci in great numbers not only in the fluid urine but in the pus cells as well. The urine was strongly alkaline, purulent and offensive. No other organisms were found. The cultures were taken in blood serum media, and pure cultures were obtained from the urine which was aspirated from the bladder. The case seemed to me to be undoubtedly one of chronic cystitis, due to the gonococci alone; the urine was alkaline in character, very purulent, containing casts; there was also a double pyonephritis as well. No tubercle bacilli could be found in the urine. It was only reasonable to suppose that the marked enlargement of the right kidney was due to the same organism which infected the bladder. I have been particularly interested in the ability of the gonococci to produce an ascending infection of the genito-urinary tract. Experiments in cystitis that I have made during the past few years in which I have aspirated the bladder through the abdomen, give one hundred cases and I have not had any bad results at all; and I believe this is the only method of getting cultures from the bladder in which we can feel sure that we have obtained cultures absolutely free from contamination. In this series there were some interesting cases of bladder infection. In five cases there was an acute gonor-

¹ See page 395.

rhea accompanied by symptoms of bladder infection; and in four cases I was able to get cultures of gonococci pure. It is my belief that gonococci may be the cause of cystitis and yet cannot be cultivated unless the urine furnishes a good pabulum for their growth. If hemorrhage is present, the blood furnishes a splendid culture for it.

One case that interested me showed how the gonococci may be present for years without causing severe symptoms. This man had an infection of the bladder with gonococci for five years and he did not suffer even from frequent micturitions. During the past four months I saw a man with symptoms of cystitis who had contracted typhoid fever seven years ago. He left the hospital returning two years ago with a severe cystitis which he stated had been present ever since. Cultures showed the presence of the typhoid bacilli which had evidently been present since he had the attack of typhoid fever five years previous. Last January I again obtained pure cultures of the typhoid bacillus. I may state that in order to study the lesion in the bladder the cystoscope was used on this patient, which caused a return of a urethritis, the gonococci appearing in great abundance. They seemed to run out the typhoid bacilli, for as they increased in number the typhoid bacilli diminished. It is interesting to note that the addition of the gonorrheal infection did not seem to aggravate the symptoms at all.

DR. J. P. TUTTLE of New York.—Last year I operated upon a kidney, opening a large abscess; the pathological examination of the contents found not only gonococci but tubercle bacilli as well, showing that this was a mixed infection in which the gonococci and tubercle bacilli were both present in the discharge and in the scrapings from the abscess cavity.

DR. BRANSFORD LEWIS of St. Louis.—As I stated I do not see why it is so rare to have a gonorrheal kidney. French, English and German literature seem to accord almost universally in the belief that ascending infection by continuity of tissue is the mode of kidney infection. I believe that it is more common than is suspected from the few reports recorded, but the other modes of infection are probably more frequent. Certain clinical instances are referred to by Guiard in which there was infection of the kidney without the bladder being in any way involved, apparently; that being the case, punctures in the bladder would not amount to much unless there was direct evidence of kidney infection such as Dr. Young mentioned. Dr. Dow mentions a case in which the infection of the kidneys was present and the cystoscope showed no evidence of bladder inflammation except reddened striæ running to the ureteral opening. There are a number of instances giving clinical evidences of trouble in the kidney coming from the urethra, but with no evidences of bladder complications. Cystitis may be infrequent even when urethritis and pyonephritis are present.

DR. JOHN P. BRYSON of St. Louis.—I should like to ask Dr. Young if the gonococcus grows in acid urine.

DR. YOUNG.—In the report referred to an examination of a great many cases showed that it did not make a great deal of difference in regard to the acidity; but, if a large amount of albumin is present, they grow; so far as the reaction is concerned the gonococci will grow equally well in an acid or an alkaline urine.

DR. JOHN P. BRYSON.—I should like to know from Dr. Young the methods used to differentiate the origin of the gonococci in aspirating the fluid. There seemed to be no evidence to show that the gonococci were not derived from the posterior urethra, or to show that a cystitis was present.

DR. YOUNG.—That is the weak point in the report where the patients were suffering from gonorrhea. There were clinical evidences of invasion of the blad-

der, frequent micturition, etc., but it admitted that it was hard to tell whether the bladder was involved or not.

The Modern Urethroscope: Its Value and Limitations.—DR. W. K. OTIS of New York, read this paper, and demonstrated many urethroscopic instruments. One instrument referred to was adapted to the Klotz form of tube by placing at the distal end a small, flat foot, at the outer extremity of which was a smooth pin. This pin fitted into a hole in the tube plate, and on revolving the instrument a quarter of a circle the foot swung under a shoulder riveted to the plate and was securely fastened. This joint was firm and easy of manipulation, readily allowing the illuminator to be attached or removed at any time during the examination. The fault of this instrument was that it still permitted the escape of a large amount of extraneous light, which soon became annoying to the eye of the operator. On this account he abandoned this instrument, and in 1892 devised one on an entirely different principle, using a lens as a condenser instead of the reflected light from a concave mirror. This instrument consisted of a metal tube or cylinder, an inch and a quarter in length by one-half an inch in diameter, closed at one end. A quarter of an inch from the open end was a plano-convex lens, so arranged that it could easily be removed for cleaning. On the interior surface, near the closed end of the tube, an elbow was let in, a quarter of an inch in length and half an inch in diameter, through which the source of illumination was introduced, a row of holes being bored at its base to allow of ventilation. The handle of the instrument was a piece of hard-rubber, with electrical connection running through it to the lamp placed on top. This handle fitted into the elbow by means of a bayonet joint, bringing the lamp immediately behind the plane side of the lens. A thumb-screw switch in the handle placed the lamp under control so that it could be turned off at pleasure. The instrument was attached to the urethroscopic tube by a stout wire an inch and a half in length, with hinged joints at each end which swung in opposite directions, and furnished with set-screws, thus allowing it to be put in any position, though when once adjusted it was rarely necessary to move it. This instrument had stood the test of some eight years' continuous use, and had demonstrated its superiority over all others designed for the practical examination and treatment of the urethra under direct ocular inspection.

SECOND DAY—WEDNESDAY, MAY 2ND.

The Best Method for Obtaining Urine Direct from the Ureters for Diagnostic Purposes (being the subject decided upon by the council for especial consideration and discussion).—DR. F. TILDEN BROWN of New York opened this discussion. He said that in the majority of all cases presenting he would offer the statement that the best way to obtain urine direct from the ureters for diagnostic purposes was (1) by one which was equally applicable to both sexes; (2) by one which secured the individual secretion of each kidney beyond any question of its contamination by the secretion of its fellow-gland, or by other extraneous material from the lower part of its urinary tract; (3) by one which effected these requirements with a minimum amount of discomfort to the patient, while involving the least possible risk of immediate or remote harm to the parts involved in the total procedure; (4) and of least moment in so important a matter, by that method which called for the simplest technique. After excluding all cutting operations for collecting separate urines he proceeded to discuss the

relative merits and demerits of the Simon-Pawlik-Kelly method, the Harris method, and the ureteral-cystoscope method. The many details of this led him to express a decided preference for the third method, although citing a brief series of exceptional cases in which this method would have to give place to that of Kelly or Harris. Dr. Brown took advantage of this opportunity to make the first public presentation of his double-barrelled ureteral-cystoscope, the advantages of which were summed up as follows: (1) In favorable cases both ureters could be catheterized at approximately the same time. (2) In less favorable cases, after passing one catheter the second channel could be used to draw the distending fluid from the bladder, thus giving the organ repose. (3) In still more difficult cases the second barrel could be used for frequent irrigations until fluid of proper transparency distended the bladder and permitted localization of the ureter, when a catheter, which has been reposing in the other barrel, could be used to engage the ureter; by taking hasty advantage of a momentary clear fluid success may be made of an otherwise failure. (4) In some cases in which but one ureter can be catheterized, this double-barrelled instrument permitted access to one ureter through one canal, and urine coming into the bladder from the opposite kidney could be collected from that source by catheter siphonage through the second barrel.

DR. W. K. OTIS of New York.—In regard to the differentiation of urines it seems to me that while so many advances have been made in the last few years at the same time there is at present no satisfactory method of differentiating the urines in all cases, and probably never will be. There are objections to every method now employed. At the present time there is a forming opinion that the differentiation of urines and catheterizing the ureters is a much simpler process than it is; it is so easy to say that we should just look through the cystoscope, find the ureteral opening and poke in the catheter and draw off the urine. As a matter of fact, there are cases in which it is absolutely impossible to find the ureteral openings at all, and anatomical anomalies are so common that it is often impossible to catheterize the ureters under any circumstances. The fact that there are now so many cystoscopes constructed shows the difficulties that have to be encountered. Another objection to catheterizing the ureters is that we are apt to cause an ascending pyelitis, especially if it be done through an infected bladder. A method that is satisfactory for collecting the different urines is that of Dr. Harris, but it has the disadvantage that it is not absolutely certain; we are always more or less in doubt as to whether we are getting urines from different kidneys. The method suggested by Gibson of introducing a small amount of methylin blue after the catheter was in position and staining the contents of the bladder so that if the other side becomes colored we would know that the separation was not complete and that the urine was being contaminated from the other kidney, is of value. This is important where the lesion is a tuberculous one and where we examine the urine for bacilli and where the lesion which produces the bacilli may be in the bladder and not in either kidney. Another objection to Dr. Harris' instrument is noticed in cases in which I have tried to use it in males; it seems to give a good deal of pain. At the same time I think the instrument speaks for itself as being a valuable addition to the methods of segregating the urine and especially in so many cases which we have in which it is impossible to catheterize the ureters.

In regard to the method of catheterizing the ureters through the uretero-cystoscope, when they can be catheterized, it seems to me the most satisfactory method to catheterize both ureters and see just what is coming from each kidney; that

is the only satisfactory method yet devised. So far as the female is concerned I think Dr. Kelly has solved the problem as thoroughly as it will be solved in the use of the endoscope. The conditions in the male are so different that I doubt very much whether any simple instrument will ever become popular—that is, any instrument without lenses. The size of the instrument is so great that the manipulations necessary are likely to give much pain. It gives, moreover, a comparatively small field. I have always been in favor of the "direct catheterizing" cystoscope, what Dr. Brown calls the "convex" type, in contra-distinction to the concave type. There is an objection to Casper's instrument in the double curve, one at each end. In Brennen's instrument one curve is gotten rid of. Therefore, such an instrument necessitates the use of a flexible catheter. This instrument which I present to you to-day I have devised; it gives a direct path to the ureter; consequently a metallic instrument can be used and a metallic sound could be passed as well as a catheter for sounding the ureter for calculi. In all these instruments, Casper's, Nitze's, etc., in order to reduce the size of the instrument the ocular apparatus is sacrificed. In order to overcome the necessity of having so many tubes I devised a cystoscope having but a single tube. A single wire on the outside of the tube is present which takes up an exceedingly small amount of room. So, with this instrument, I can get a full-sized field for catheterizing the ureters, the instrument is smaller and, at the same time, I have been enabled to utilize the full-sized cystoscopic telescope. One part of the telescope has been taken out of the Leiter cystoscope. Here, we have exactly the same field as in Leiter's instrument; consequently, by transferring the prism to the other end of the instrument, I have been able to throw the ocular apparatus out of line, thus obtaining a direct road to the ureter without being interfered with by the ocular apparatus.

I have had two cases in which, although the ureter could be found, it was impossible to pass the catheter into the ureteral orifice because the catheter doubled up; if a metallic one had been used it would probably have gone in without difficulty. This instrument simply consists of two tubes; on withdrawing the obturator it leaves a tube through which the ureteral catheter can be passed down. When the ureter has been catheterized on that side all that is necessary to do is to remove the tube which slides over the catheter and leaves it there in the canal alongside the instrument. It seems to me that this instrument, by giving you a direct way to the ureters, has some advantages over other instruments of this type.

DR. MALCOLM L. HARRIS of Chicago, continued the discussion at the invitation of the Association. In summing up his remarks he stated that catheterization of the ureters had a field of application which was absolutely distinct, in the sense that no other means at our disposal accomplished the same end, namely, to determine the nature and location of obstruction of the ureter; to locate the ends of a divided ureter or act as a guide in certain intra-pelvic operations; for tapping and draining fluid accumulations in the renal pelvis; for therapeutic purposes such as dislodgment of calculi, irrigation of the renal pelvis, etc. Catheterization of the ureters simply for the purpose of collecting urine for diagnostic purposes had its drawbacks and limitations, among which might be mentioned temporary anuria, due to the presence of the catheter in the ureter; contamination of the urine with blood and epithelial cells from the ureter; danger of infecting a healthy ureter and kidney. This last point he thought to be of such a serious nature that catheterization of a healthy ureter, when the bladder was infected, or the opposite kidney tuberculous, had been condemned. If this injunc-

tion was heeded as it should be, it would deny the benefits of this diagnostic aid to a large class of patients. The segregator, likewise, had its limitations. There were certain cases which were not suited for its use. In certain intravesical lesions its use must be supplemental to that of the cystoscope. But for the differential diagnosis of certain tumors of the abdomen; for determining which kidney was diseased and the "functional activity" of each and whether the bladder was infected or not; for differentiating between certain bladder and kidney infections, the segregator gave results that were perfectly reliable, as had been repeatedly demonstrated by numerous anatomical findings. Furthermore, in the infected cases it had the advantage over the ureteral catheter of being free from the danger of infecting a healthy kidney.

A Ureter Cystoscope (for Male or Female) Built on a New Model.—By DR. BRANSFORD LEWIS of St. Louis demonstrated this instrument, which had the definite object in view of catheterizing both the male and female ureters. It consisted of a tube which carried on its upper surface the conducting wires for the electric light, and within, on its lower surface, a small tube for guiding the ureteral catheter to the desired point, *i. e.*, into the ureteral opening. At the ocular extremity was a handle for controlling the direction of the instrument; at the distal end, contained within the curved tip, was the electric lamp, of low tension, affording sufficient light for illumination, but generating hardly any heat; permitting, therefore, the use of the cystoscope within the empty bladder and without the complicating presence and often interference of fluid. The light from the lamp was shed on the adjacent mucous membrane through the glass window sealed in the roof of the tube just below it. The tip of the cystoscope was a hollow cap, attached by a screw, and could be removed for replacing a burnt-out lamp. This latter was easily accomplished in the manner made use of in the Chetwood urethroscope. To facilitate introduction, an obturator was furnished which closed the distal orifice until it was removed, preventing scraping of the membrane against the edge of the opening; but, at the same time, these edges were rounded so that they could be brought in contact with the membrane within the bladder, or the instrument, being withdrawn into the prostatic urethra a certain distance, could be pushed back into the organ without injury to the surface coming in contact with them. A small silk-web ureteral catheter completed the instrument. For several years ureteral catheterization in the female had been *un fait accompli*, and to a high degree of satisfaction to the profession. The Pawlik-Kelly method was in daily use the world over for both diagnostic and therapeutic purposes. Yet, if this method could be improved upon by being made easier or more certain of accomplishment, or if the duration of the search for the ureteral openings could be shortened, or if the pain so often suffered by the patients from the preliminary dilatation of the urethra, or the introduction through it of a cystoscope sufficiently large to afford a good view, could be obviated, then these objects should be accomplished, even though the instruments already in use had proved of such inestimable value. He believed that these features, two in number, of fixed internal heatless illumination and of complete control over the internal end of a flexible ureteral catheter, when applied to a tube of proper form, would secure the advantages mentioned.

DR. W. T. BELFIELD of Chicago.—Six years ago, or longer, I presented an instrument, of which the one presented by Dr. Lewis is a duplicate except for two features. The first feature is the substitution of low tension cold lamp for that employed in my own; and the second feature is the groove for the conduction of

the ureteral catheter. The instrument which I had used for quite a while and had quite a little experience with has one great difficulty; i. e., the heating of the lamp. In that early day low tension was not known. That difficulty will be obviated by this instrument of Dr. Lewis. There is another difficulty, and that is the very minute field exhibited by such a tube. The object attained by my instrument was that the urine could be collected from each ureter by simply surrounding the orifice of the ureter with the opening of the tube. This avoided the danger of infection of the ureter and, also, any laceration of the ureter which would cause a certain admixture of blood, etc. An important point is that we could get the urine direct from the ureter in many cases without danger of insertion. There is no question that the catheterization of the ureters can be done, and there is no question but that the present difficulties encountered in the minute field of vision practically renders the instrument useless. I might here say that I have an instrument which is going to render such discussions like the present one unnecessary. Kelly's instrument, the Harris segregator, etc., will be of historical interest only. It includes the telescopic arrangement which can be inserted inside the obturator. Such an instrument can be used inside the bladder as a simple cystoscope. The uses to which it can be put are many. Next year I shall be glad to report of its success.

DR. W. K. OTIS of New York.—In regard to this exceedingly ingenious instrument shown by Dr. Lewis I should like to make a remark because I have used an instrument of this character both for attempting to catheterize the ureters and to examine the deep urethra. I have found the same difficulties with it as Dr. Belfield. This idea of having a little groove at the bottom of the tube for the conduction of the catheter seems to be an excellent one. I found one of the principal difficulties to be in the size of the instrument. I think I use as large a urethral instrument as most of you present. I have a cystoscope of 32 Fr. and where that one can be used I think it yields better results. But, when it comes to using a tube as large as this one, and moving it around to find the ureteral orifice, the difficulties of finding it and the length of time that it takes, and the manipulation necessary, will give much pain to the patient and, if he be under the influence of an anesthetic, will damage the deep urethra. In my experience, it is not easy to find the ureter in the male; it is a long way to the ureter.

One of the problems to be solved is that pertaining to the cold lamp. If the lamp is very small it may be absolutely cold. If such a small lamp as is used in the Chetwood urethroscope be employed it will not give sufficient light to be of use in examining the surface of the bladder, although it may be sufficient in examining the urethra. I should like to state that the Wappler Electric Controller Company of New York, can make any sort of cystoscope and, therefore, it is not necessary to send for our instruments to Europe.

DR. L. BOLTON BANGS of New York.—I should like to contribute a little to this question of differentiation of urines for, from a surgical standpoint, in some cases, it is very important. When Dr. Belfield presented his instruments five or six years ago, I sent for them. They were exactly like the one presented by Dr. Lewis with the exception of the two features that Dr. Belfield has referred to. There is certainly a difficulty from the heat; but there is another difficulty which I have also experienced in using the straight tube. It was the same difficulty that was experienced by Dr. Kelly when he was invited to New York to demonstrate the use of his cystoscope in the male. In the male there are cases where we cannot introduce a straight instrument or even one with a short curve. In order to bring into view the ureters it is necessary to radiate the point of the tube away

from the median line, and this deviation often cannot be done on account of the fixed portion of the urethra. I should like to know if that is the experience of others. The ureteral orifice is on either side of the median line and I found that I could not rotate the instrument sufficiently to bring into view these orifices because of the rigid urethra and because of the traumatism I induced. Dr. Kelly was asked to come over to New York to demonstrate his straight tube for the catheterization of the ureters in the male. I provided three patients, only two of whom were placed in use. In one he succeeded. In the second attempt to introduce the straight tube he failed and I did also. Both patients were under the influence of ether. I have not used the straight tube except when I wished to bring into view the deep urethra and contiguous portions of the neck of the bladder.

There have been cases in which I have not been able to see the ureters with the cystoscope. I guessed at their situation, but I could not see them. I thought the reason was because of my lack of dexterity. Then I went into the dead-house, had bladders opened and I was surprised to find, in some cadavers, that I could not find the ureter except by inserting carefully the point of a probe; in some I placed a straw. Has this been the experience of others? I could not even see the ureters and I found that I must guess at their position. The swirl of fluid which gushes out shows you often where they are to be found.

There is another point I wish to refer to; when the ureteral catheter is apparently going straight for the ureteral opening the least deviation on the part of the patient, sometimes caused by a cough or, if the patient is under the influence of an anesthetic, the least effort causing a change in the relationship of the abdominal viscera will defeat your object. I am sure that damage is made around the mouth of the ureter in these efforts at catheterization and in a case reported by Dr. Howard Lilienthal of New York of sepsis due to infection of the kidney it occurred to me that possibly this was the way such infection took place, *i. e.*, infection following these little traumatisms. I have come to the conclusion that, unless there is some positive reason for doing otherwise, I prefer using the Harris segregator. There are cases in which we will not succeed at all by any method. For ordinary surgical diagnosis in order to determine upon some surgical procedure, whether to operate upon the kidney or for exploratory purposes, I have settled upon the Harris segregator. There are certain disadvantages in its use, but some of them may be removed by a preceding cystoscopy of the bladder.

DR. GEORGE CHISMORE of San Francisco.—It is evident in my own mind after hearing this excellent paper showing carefully the merits and demerits of the instruments that cystoscopy must be trusted in the hands of a very few individuals who have the opportunity and tactile skill to use the instrument to gain knowledge that will benefit the patient. Dr. Harris' instrument seems to be the best one for the average operator who has a moderate degree of dexterity and who can use it to some purpose in the great majority of cases.

DR. JOHN P. BRYSON of St. Louis.—The segregation of urines, or the differentiations of urines, as I tried to intimate in my paper yesterday, has a prognostic as well as diagnostic value. My experience has been so much like that of Dr. Bangs that most that I would say would simply be a repetition of his remarks. I have not been able to use the straight or Kelly tube. Any instrument which requires the uncomfortable knee-chest position is the one that the patient will not have used on him very often, and we must remember that one of the chief advantages of the instrument is that it gives us an opportunity of making frequent observations. If we are going to watch the effect of a chronic pyelonephritis upon

the kidney on the opposite side we must make more than one observation. I should like to have one of the gentlemen in closing state whether, after having once easily and comfortably catheterized the ureters, he has failed to do it on the next attempt. I am usually able to find these orifices; failure to find them would be presumptive evidence that the ureteral orifices were not in their normal positions. I have failed to find them. Of course, we can help ourselves in locating them by administering such remedies as will stain the urine. While I have a great deal to say upon this subject I will content myself by stating that, from a practical standpoint, the Harris segregator is the most valuable instrument presented up to this time. One of its advantages is the possibility of repeated observations; I have made such observations extending over a whole year. I almost invariably precede the use of the Harris segregator with cystoscopy and I believe that this often serves as a safeguard against error. Without the use of such an instrument I would not have been able, in many instances, to locate the lesion at all. I recently removed a kidney from the left side; in this patient there were no symptoms except hematuria.

DR. BRANSFORD LEWIS of St. Louis.—My experience leads me to believe that my ability in the use of the Harris instrument has not been equal to that of the gentlemen who have spoken to-day; I have not been able to use it with the satisfaction that they have obtained from it; but I am not alone in that, as I have heard a number of other gentlemen mention the fact that they had not been able to make satisfactory or reliable use of it. I have industriously tried to use it, but in several instances obtained equally bloody urine from both sides, in cases of hematuria, or one side would drain for awhile and the other would not, and, later, the reverse would be true.

As to the instrument mentioned by Dr. Belfield, I do not think the doctor is justified in saying that his was the same as mine with two minor exceptions, since those two exceptions, in my instrument, are just what redeem it for practical usage. Dr. Belfield used a hot lamp, that evidently could not be borne in the bladder without pain or danger of injury to the organ; and even if it could, he had no control-groove for passing the flexible catheter and keeping it within the guidance of the hand. It was my inability to effect ureteral catheterization with any of the instruments already in the market, that set me to work on this one.

I should like to ask if Dr. Brown, after catheterizing a ureter, leaves the cystoscope within the bladder while the urine is draining?

DR. GEORGE K. SWINBURNE, New York.—He leaves the instrument in place during that time.

DR. LEWIS.—That is an objection that is overcome by my instrument. After having passed the catheter into the ureter, the cystoscope is withdrawn from the bladder, the patient is allowed to lie quietly in a comfortable position on the table for as long as necessary while the urine is draining. I do not see how Dr. Brown can possibly expect to catheterize both ureters at one sitting with his double-barreled instrument. With one catheter passing through the cystoscope into one ureter, it can hardly be possible to deflect the cystoscope sufficiently toward the opposite side to engage another catheter in the other ureteral opening. Dr. Harris mentions an instance of a calculus impacted in a ureter, blocking it up so that a catheter, even if passed into the ureter, would not drain any urine. I wish to show here a photograph of a ureteral calculus *in situ*, that, although it looks very large in its present position, did not prevent the urine from passing through that ureter, as was demonstrated by cystoscopic examination during life.

Dr. Bangs' argument, except in one instance, is in direct correspondence with

my own. After seeing a ureteral opening through the cystoscopes already on the market, it is a difficult matter to guide the catheter into it, because of the large opportunity for deflection of the catheter-point before it reaches the opening, or because one is working with an inverted field, made such by the lenses. With my own instrument, if one succeeds in finding the ureteral opening, there is only a half-inch of space to reach it, and there is no difficulty in engaging it in the opening. The chief difficulty to be encountered will undoubtedly be that of finding the ureteral openings; and that will depend very largely on the amount of practice one has in the use of the instrument, just as it has done with reference to the ease of using the Kelly ureter-cystoscope.

One feature that may make difficulty is that of bladder-contractions, in certain cases. Possibly it will be necessary to administer chloroform to prevent these, in such cases.

As to Dr. Bangs' suggested difficulty of deflecting the cystoscope sufficiently to reach the ureteral opening, I have not had any trouble on that account. The fixed urethra does not interfere appreciably in that respect.

The knee-chest posture will, I think, give the best results for exposing the ureteral openings with this instrument. It allows accumulating urine to collect in the fundus of the organ, instead of around the field of work; and the abdominal contents in dragging on the bladder stretch its posterior wall and incidentally stretch the ureteral openings, putting them into plainer view.

Antero-Posterior Sub-Division of the Bladder: An Important Anomaly.¹

—By DR. EUGENE FULLER of New York.

DR. RAMON GUITERAS of New York.—How large was the anterior chamber, and why was it not considered a dilatation of the posterior urethra?

DR. EUGENE FULLER of New York.—The ureteral orifices were just behind the partition and the prostate was not much developed; this was behind the prostate.

DR. RAMON GUITERAS.—Was there no dilatation of the prostatic urethra?

DR. EUGENE FULLER.—The prostate was not developed in either one of these cases.

DR. RAMON GUITERAS.—I have seen a case where there was a very large prostatic pouch posterior to the prostate; but the prostatic urethra was enlarged containing one-half to one ounce of urine. The prostate seemed to be thinner than usual on account of the dilatation of the prostatic urethra; in that case there was a constriction.

DR. JOHN P. BRYSON of St. Louis.—I should be inclined to ask the same question. It seems to me that the ureteral orifices were situated in such a way as to suggest that question. The trigonum entered there at the narrowing point.

DR. EUGENE FULLER.—The subjects were not very old, one being fifty-five and the other forty-two. The prostatic glands and the ejaculatory ducts seemed to be perfectly normal. The bands were behind them. The specimen was much hardened in formalin and it was somewhat difficult to get a good drawing.

DR. JOHN P. BRYSON.—There seems to be a great deal of fibrous tissue present.

DR. EUGENE FULLER.—There seems to be a tremendous hypertrophy of the bladder.

DR. GEORGE CHISMORE of San Francisco.—I am inclined to believe that Dr. Fuller has hit upon a condition that is much more common than it is supposed to

¹ Will be published.

be. Early in my career I attempted to introduce a lithotrite into the bladder and met with resistance which was due to a subdivision of the bladder. I have so often in old bladders encountered this additional cavity, apparently partially separated from the main bladder, that I believe it to be a state of affairs much more frequent than recorded. I would not be surprised to find that it was a matter of frequent occurrence. In this instance of Dr. Fuller's the location of the ureteral orifices make one almost at once suspect a dilatation of the prostatic urethra.

DR. EUGENE FULLER.—I am inclined to think that we may find many cases of this nature. The fact that the partition was back in the bladder was evident to the operator.

DR. L. BOLTON BANGS.—There is certainly a compensatory hypertrophy of obstructive disease; this compensatory hypertrophy also extends into the anterior dilatation. I think we all have seen obstructive disease which we know commences in childhood which is just such a condition as that. This is the effort on the part of the bladder to overcome commencing dilatation of the prostatic urethra.

DR. RAMON GUITERAS.—In cystoscopic cases I have frequently gone into a pouch similar to this and thought I was in the bladder and I could twist the cystoscope in it. In one or two cases by bringing the handle down I could shove it through into the bladder. It was a dilatation of the prostatic urethra.

DR. FULLER.—I think we are all well acquainted with the condition Dr. Guiteras describes where an old prostatic case makes us believe that we are in the bladder, yet on pushing ahead we enter the bladder. An hypertrophy of the prostate has formed which made a pouch. This condition began in the young man as a congenital affair. The prostate is of normal size, or rather atrophied from straining.

Radical Treatment of Curvature of the Penis.—By DR. EUGENE FULLER of New York.

DR. W. F. GLENN of Nashville.—I am glad Dr. Fuller reported his case. In a case under my care I could not relieve the condition because I did not know how. This field of operation which will permit patients to have satisfactory intercourse makes them willing to have anything done for their relief.

DR. W. K. OTIS of New York.—Frequently the curvature does not result from the depth of the cut; it does not make any difference how deep the cut is it will result in no more curvature than a smaller cut. It is due to the amount of inflammation. There is an instrument known as the transverse urethrotome which was used by my father, and I have used it once or twice; this makes a cross cut through the band of cicatricial tissue and it has been successful in removing these curvatures by internal operation.

DR. JOHN P. BRYSON of St. Louis.—Did I understand Dr. Fuller to say that he left a portion untirely uncovered by mucous membrane?

DR. EUGENE FULLER of New York.—Yes. I cut down through the corpus cavernosa and the spongy body. It is one and a half years since the operation, and the uncle has just reported that the boy passes a good stream and is able to have sexual intercourse. I had practically three-quarters of an inch of a new urethra to form. I think in these cases of resection of the urethra a good result is often obviated by the use of sounds or instruments.

DR. JOHN P. BRYSON of St. Louis.—That is too short a time to predict the ultimate result of the operation.

DR. FULLER.—I beg to dissent in that respect, because I have had a good deal of resecting of urethras to do and have taken out large pieces of the urethra, especially in old cases of total destruction by gangrene. I have resected two inches of the urethra and, at the end of two years, there was no tendency to retraction. Retraction is more likely to take place at the anterior end of the segment.

THIRD DAY—THURSDAY, MAY 3RD.

The Clinical Effects of Ammonio-Formaldehyde (Urotropin).—A paper by EDWARD L. KEYES, JR., M.D., read by DR. EDWARD L. KEYES, SR., of New York.

DR. EDWARD L. KEYES, JR., by the courtesy of the Association, presented this paper, which was founded upon clinical observations illustrating the effects of this drug. His conclusions were as follows: (1) Ammonio-formaldehyde (urotropin) seemed to be a specific in the prove effective it might have to be administered in large doses until the urine was practically clear of bacteria, after which a smaller dose might suffice. (3) In judging the effects of the drug, the centrifuge and microscope should be employed. (4) The dose must not be sufficient to cause pollikiuria and dysuria by irritation of the neck of the bladder. (5) The possibility of such an irritation could be overlooked, even when small doses were employed. (6) Ammonio-formaldehyde was extremely serviceable as a prophylactic to the various forms of urinary septicemia and urethral chill. (7) Its routine employment, both before and after operation on the urinary passages, was indicated. (8) The urine containing ammonio-formaldehyde occasionally had an escharotic effect upon wounds, which might constitute a contraindication to its employment.

DR. GEORGE CHISMORE of San Francisco.—I should like to say one word in regard to the varieties of urotropin, which I believe to be an exceedingly valuable agent, better than anything else for the control of certain bacterial conditions. I do not know whether this experience of mine has been observed by others or not. I gave urotropin with benefit both so far as the subjective and objective symptoms were concerned, but one day the patient came back to me complaining that he had some pain and burning and other distressing urinary symptoms. Upon investigation I found that he had taken my prescription to a different drug-store; he took some powders out of his pocket to show me and, upon examination, they were found to be another manufacturer's product. Mechanically, they were precisely the same, but under the microscope they differed, the second preparation being more woolly and less clearly crystalline in appearance than what I obtained in the first order. I took the powders from him and ordered another prescription to be filled at another drug-store and it was followed by immediate relief of his disagreeable symptoms. The observations made upon the effect of urotropin are very valuable. In those cases where irrigations are combined with the exhibition of urotropin internally, when there is a sudden increase of temperature and an exacerbation of other symptoms, these accession of symptoms were readily attributed to the irrigations rather than to the urotropin.

DR. JOHN P. BRYSON of St. Louis.—The experiences recorded in this paper accord so thoroughly with my own that I cannot say more than indorse them. I might add or make a suggestion in regard to the use of urotropin in connection with tuberculous disease. I have, in several cases, seen urotropin produce irritation, and polyuria, when administered alone; but, so soon as the carbonate of creosote was used in conjunction with the urotropin, relief was obtained. In

some cases, the urotropin had to be withdrawn because it made the granulations pale and flabby. I can clearly call to mind an experience with the alternating use of urotropin and salol. One observation was made in two cases where certain forms of diplococcus which appeared in the urine, morphologically a gonococcus, which did not yield at all to the use of large doses of urotropin; they produced no effect upon the pus at all. This form of diplococcus persisted in the urine in spite of everything.

DR. W. F. GLENN of Nashville.—My experience with urotropin agrees with that of Dr. Keyes. In one of my cases $7\frac{1}{2}$ grains of this drug in twenty-four hours could not be born from the extreme vesical irritation. If urotropin be used in large quantities of water one week before an operation you will hardly ever have a patient with a bladder or urethral chill. The paper is a very valuable one. I trust that urotropin will solve the matter of urinary fever and nervous chills.

DR. JOHN P. BRYSON of St. Louis.—In reference to the use of this drug as a preventative of urethral fever following instrumentation it will be remembered that at the Richfield meeting I read a paper on that subject and I tried to impress you with the fact that with the use of urotropin you could abolish urethral fever. I have pursued that plan ever since and I have never had urethral fever following instrumentation.

DR. W. K. OTIS of New York.—I think we all are perfectly agreed that urotropin is the best urethral antiseptic we have. I am in the habit of using cystogen on account of its being less expensive and because, clinically, it is as good as urotropin. In catheterization of the ureters I think it is quite important that the patient should be placed upon urotropin several days before the ureters are catheterized.

DR. EDWIN C. BURNETT of St. Louis.—I have had some experience with this drug in cancer of the bladder and prostate gland and I have found that it sets up a great deal of irritation which is unbearable.

DR. EDWARD L. KEYES of New York.—I have noticed the same; such patients cannot tolerate it at all. I know of an old gentleman, retired from the army, from whom I took a stone. I found a large kidney and an enlarged prostate and the man was going to die. He takes constantly as high as nine urotropin tablets, each containing one-half a gram, *i. e.*, $7\frac{1}{2}$ grains—a day, week in and week out, and his pus diminished down from two, three, and four per cent. by the centrifuge, to one-half per cent. He is perfectly well. Both kidneys are big. I do not know if they are tubercular, but they may be.

Prostatic Cancer; Three Cases with Specimens.—DR. E. E. KING of Toronto thought that the relative infrequency of primary prostatic cancer justified him in bringing this subject before the Association. He gave histories of cases and remarked upon them. His cases did not differ from the general rule of cancer of the prostate being found in the young, or in those past the age of fifty years, although just why the ages between fifteen and fifty should be exempt he did not know. Most of the cases noted began about one year before a fatal termination. In the statistics of Tanchow, out of 1,904 cancers in the male, he referred to but 5, or only 1 in 400. Munn, in 1,286 cases of cancer taken from the reports of the Middlesex Hospital up to 1899, tabulated only 28 cases of cancer of the male genitalia. Fenwick (*Edinburgh Journal*, July, 1899) referred to 50 cases of undoubted primary affection of the prostate as coming under his personal observation. He liked the manner in which Fenwick divided the condition,

which he believed to be the correct one, viz., (1) the hard, malignant growth, resembling scirrhus of the breast; (2) the soft, malignant growth, which resembled the encephaloid. Fenwick said the second variety was much rarer than the first, which was in opposition to the usually accepted belief; each of his own cases had been of the hard variety. The speaker concluded by stating that the features which impressed him in the cases cited were: (1) The very advanced stage of the disease before being recognized; (2) the cessation of symptoms on rupture of the capsule; (3) the non-involvement of the bladder in either specimen shown; (4) the absence of metastasis in one case, and the meta-stasis of the kidney alone in the other.

DR. L. BOLTON BANGS.—I am struck with the statement that primary carcinoma of the prostate is *extremely* rare; I suppose it is *comparatively* rare. It occurs every now and then with only the symptoms of ordinary hypertrophy of prostate; but, when these pursue any unusual course, I am led to suspect that a correct diagnosis has not been made. I think the early diagnosis of primary carcinoma of the prostate is rarely made.

DR. BRANSFORD LEWIS of St. Louis.—In reference to the early diagnosis of cases of primary prostatic carcinoma I remember one feature in a case which I had in the City Hospital in St. Louis. I now have the whole specimen, including the kidneys, bladder and penis. That patient had no symptoms at all previous to 90 days before his death; he said he did not even have frequent urination. Up to one week before his death he was going about his work as usual without complaint. One day before entering the hospital he climbed to the top of the Custom House and he then had complete retention of urine. On entering the hospital the interne tried to draw off the urine, but failed. I tried various means to enter the bladder but could not succeed. A perineal urethrotomy was then made and then even with strong pressure I failed to enter the bladder with any kind of catheter. I then made a suprapubic cystotomy and learned why I could not enter the bladder. There was a prostatic cancer which filled the outlet of the pelvis and was jammed between the anterior and the posterior walls so that nothing could be gotten through. The retention was relieved, continuous drainage was instituted, but he died soon after. The cancer was a primary one of the prostate, an adenocarcinoma. So far as the clinical evidences were concerned it was short-lived, and yet it must have necessarily have had a very long duration.

DR. GEORGE CHISMORE of San Francisco.—I believe that cancer of the prostate is much more common than is believed. I have seen a number of cases and I have been led to look with a good deal of apprehension where, without ostensible cause, catheterization was extremely painful. These cases frequently terminate in cancer of the prostate. I have observed particularly two different forms of the disease; one, in which the scirrhus type prevailed and in which the prostate was moderately enlarged and which pursued a very long and tedious course; second, in which the cancerous condition was almost unsuspected until the last. All cases were characterized by unusual pain in attempts at catheterization. I remember one instance where malignant disease was suspected and an exploration by rectum was made. A careful observation was made. The patient had been accustomed to use the catheter from his forty-seventh to his seventieth year; an atonic bladder caused an overdistention. I examined him one Thursday afternoon and on Friday morning the digital finger entered a cavity through the prostate. That same afternoon there was a gush of urine into the rectum and on Saturday morning he died. Another case seen almost at the same time; in the course of two weeks there was a rapid ulceration and a urethro-rectal fistula formed and

death in a very short space of time followed. I think we frequently overlook cancerous conditions in the prostate.

The Subjective Symptomatology of Renal and Ureteral Disease.—DR. JOHN P. BRYSON of St. Louis read this paper. Many clinical observations had been made by him, and from these he inferred (1) that an irritation arising in an otherwise healthy urinary tract in the kidney or its pelvis would create subjective symptomatology referable to the organ itself, and, if passing beyond that, radiate toward the center of the abdomen along the line of the nerves entering the hilus of the kidney along with its blood-vessels, crossing over, when severe, to the opposite side, and, especially when the right kidney was involved, causing vomiting. (2) Similar irritations affecting the middle third of the ureter caused a subjective symptomatology manifesting itself largely in the distribution of the genito-crural nerve. (3) Similar irritations affecting the lower part of the ureter in the neighborhood of the bladder would manifest themselves chiefly by increased frequency of urination without tenesmus, provided the bladder was otherwise free from disease. In all of these conditions there was a certain amount of tenderness on pressure or pain in that portion of the ureter which was being irritated at the time. Time did not permit him to detail some cases in which, especially in tuberculous inflammations more or less localized, the disease originating in the bladder in the neighborhood of ureteral orifice traveled up that duct on that side, creating a subjective symptomatology in the reverse order to that mentioned. Just how far down an irritation must travel from the renal pelvis, or how far up the bladder, before affecting a genito-crural nerve, it was not possible to state. We might be aided, however, to a certain extent by anatomical considerations. The chief point in practice was to take advantage, in localizing ureteral disease, of the observation that in apparent irritation at the upper part of the ureter, in the kidney and its pelvis, the manifestations were renal; in the middle portion, genito-crural; in the lower portion, vesical. This might serve as a guide for surgical interference in cases of ureteral disease.

DR. A. T. CABOT of Boston.—I was much interested in Dr. Bryson's paper and the effort to localize calculi by certain symptoms. I think sometimes these cases, which he can explain possibly, in which stone is in the pelvis of the kidney, give rise to symptoms referable to the neck of the bladder. I remember one case in which I was certain for some time that the trouble was in the neck of the bladder. The patient subsequently went to Paris and was under Guyon's care, who made injections of nitrate of silver when the stone suddenly passed down through the ureter and discharged into the bladder. I had a similar case: a patient came to me with similar symptoms referable to the neck of the bladder. I treated him in the same way and I was surprised to get the same result: a stone came down and the patient was relieved.

I was much interested in Dr. Bryson's attempt to account for the various pains by the nervous distribution. I can offer nothing more upon that. I have been so confused by the symptom complex that I now depend upon local tenderness. In two cases I removed stones so localized. In one case the stone was close to the bladder; in the other case it was midway between the kidney and the bladder.

DR. EDWARD L. KEYES of New York.—I think this kind of investigation is very valuable, and I am grateful to Dr. Bryson for his paper, but that there may be bladder symptoms when the lesion is renal I feel assured. An old gentleman came to New York with a stone in his bladder, which I crushed and removed entirely.

He was in "catheter life" and continued to be so. He had no cystitis or prostatic disease. He went home still using his catheter. He was sixty-five years old, but lived a number of years afterward, strong, vigorous, never having any pain except slight renal colic. Suddenly while in the bloom of health—except for the fact that he used a catheter—he was attacked with a paroxysm of kidney colic while out trout fishing, and was treated by the ordinary means employed in those days, and he died of suppression of urine. The autopsy showed one kidney atrophied and withered with practically no kidney substance left. The other kidney was large and healthy and had its ureter totally blocked with a calculus. There was no prostatic enlargement, no bar, no other lobe, no stone in the bladder, no cystitis. Vesical spasm due to the kidney stone in the pelvis of the kidney had caused the retention during all those years. The smooth inside wall of the bladder was not thickened, nor were there any evidences of a cystitis. The muscular force of the bladder had always been good; after the catheter entered the urine flowed away with force.

DR. W. K. OTIS of New York.—I think this is an important and interesting subject, and one which would well pay to take up time for its discussion. During September last, I saw a woman, about forty years of age, who had been treated for cystitis for years. She suffered from irritation and frequency in urination for about fifteen years. The urine had pus in it, but there had been absolutely no reference made to the kidneys. There was no pain or any possible evidence to make one believe that either kidney was affected. A cystoscopic examination showed the bladder was free from trouble; there was no cystitis. Upon catheterizing the ureters it was found that the left one passed pus; the right one was perfectly normal, giving out normal urine. Some enlargement could be felt in the right side, and it was found that the right kidney was affected. The kidney was cut down upon and was found to be riddled with abscesses; this kidney was removed and in it, filling the entire pelvis, was discovered a stone; the kidney was almost completely destroyed. The ureter on that side was pervious. This patient made a complete recovery and is now perfectly well. At no time was trouble suspected in that kidney nor were there any symptoms whatsoever except bladder symptoms.

DR. JOHN P. BRYSON of St. Louis.—I am obliged to the members present for their kind remarks. I noticed, however, in all the cases reported where the bladder symptoms were supposed to originate from the renal lesion, that the ureters were not examined. I recently saw a lady who gave a history of vesical disease which had existed for a long time. The history immediately preceding the time I saw her showed that there was a frequent and constant desire to urinate which was relieved by lying down. This vesical tenesmus in connection with bladder lesions is important. The patient had been under the influence of chloroform to a greater or less extent during the four days before I saw her. I stopped the chloroform and watched her symptoms for awhile and she had that constant never-ceasing desire to urinate, but without the vesical tenesmus. I cystoscoped the patient and found a pus-plug coming out of the left ureteral orifice. The bladder was fairly normal. I then dilated the urethra, introduced my left finger into the bladder and my right finger into the vagina, and I milked out a mass from the ureter which entirely relieved her of her symptoms and, following this, she got entirely well. I think it is not an uncommon thing for a lesion to exist about the lower end of the ureter along with renal lesions of a very serious character, such as a calculus nephritis or a nephrolithiasis.

Acute Abdominal Symptoms Associated with a Congenital Malformation of a Ureter in a Child.—By DR. CHARLES L. SCUDDER of Boston.

Bacterluria Associated with Congenital Diverticulum of the Bladder.
—By DR. GEORGE K. SWINBURNE of New York.

DR. A. T. CABOT of Boston.—I am reminded of a case of supra-pubic operation where the recurrence of stone made me suspicious of some condition favoring its recurrence. I found a stone in a diverticulum close to the ureteral orifice. The stone was of good size and was removed. The patient gradually died of a pyonephritis. The autopsy showed another pocket, exactly corresponding to the one on the opposite side and also containing a calculus. It had a minute opening and had set up a hydronephrosis behind it.

DR. GEORGE CHISHMORE of San Francisco.—I had an opportunity of making a post-mortem upon a patient in whom, for fifteen years, I had been removing stones by litholapaxy; I first did a suprapubic operation removing the stones thoroughly from the bladder. I did not have occasion to operate upon him for more than a year. He moved away and died under the care of another physician. In the right ureter I found a collection of seven stones; in the left ureter within the bladder wall I found five small stones. There was, also, found a small spoon-shaped stone which projected into the bladder wall between the ureters. I think that accounted for the multiple recurrences of these stones. The ureters were very much dilated.

DR. JOHN P. BRYSON of St. Louis.—The difficulty of a differential diagnosis between calculi and multiple calculi in the bladder and in the lower end of the ureter must be very great. I have had some curious experiences. In one case there was a calculus near the end of the right ureter; it was in a pocket and was fastened there. I was forced to dilate its neck in order to remove the calculus. I have now in the hospital a patient with the condition described by Dr. Scudder, who continues to suffer and will not allow me to operate; he is stubborn and will not give anything for the sake of science.

Selections.

Contribution to the Surgery of Stone in the Bladder—REGINALD HARRISON, F.R.C.S. Eng. (*Lancet*, Nov. 12, 1898).

Harrison presents an interesting report of his operations for stone during the interval of 1890-97, in hospital and private practice. One hundred and ten operations were performed, in which there were 101 litholapaxies, 3 perineal lithotrities, 2 suprapubic lithotomies, and 4 median lithotomies. There are three subdivisions to the report:

I. *Record of Operations Especially with Reference to Litholapaxy.*

Of 101 instances in which this operation was performed 6 cases terminated fatally. The patients were men of advanced age, ranging between 54 and 76 years, and in all of them death was due to a chronic suppurative nephritis or some other complication independent of the operation itself.

¹ Will be published.

In 23 persons there was recurrence after crushing, and the operation was repeated once in 13 cases, twice in 2, three times in 1, four times in 1, five times in 1, six times in 1, nine times in 2, and ten times in 2, making a total of 174 litholapaxies in 101 individuals with six deaths. All the patients have done well since the operation. The total weight of all the fragments removed was 13,413 grains, or an average of 120 grains for each patient. The largest stone was a urate weighing 1,200 grains. In the 73 operations for recurring calculi the fragments varied from 20 gr. to over 2 oz., and were mostly phosphatic.

The youngest patient was a boy of 4. A urate calculus weighing about 15 gr. which had caused several acute attacks of urinary retention was pushed back into the bladder and then crushed and evacuated. He was well and about on the following day.

Urethral stricture complicated 8 of the cases. This condition offers no obstacle in the way of litholapaxy provided the kidneys are fairly sound and have not commenced to suppurate. This complication proved fatal in two of the cases above mentioned. Where the stricture is tight or of very long duration making suppurative nephritis imminent or actual, perineal lithotrity with division of the stricture and drainage is far safer. In two of the cases the stone was imbedded within the prostatic urethra. With a sound aided by a finger in the rectum in both cases the stone was freed, pushed back into the bladder and crushed.

II. *The Prevention and Treatment of Stone Recurring After Operation.*

Under this subdivision Harrison says that in children or young adults, litholapaxy is very rarely followed by re-formation of stone. Enlarged prostate was the cause of nearly all recurrences. This condition often renders the act of complete micturition mechanically difficult and impossible, and also furnishes favorable conditions for the growth of stones which having descended from the kidney are detained in the bladder. That an incomplete removal of the debris after a crushing operation may be responsible for some recurrences cannot be doubted, but not to the extent that some are disposed to consider. A red urate or black oxalate stone is sometimes supplanted by a pure white phosphate. More than one recurring stone had a fixed origin on the rough cicatrix of a previous suprapubic cystotomy. Furthermore the sacs and pouches of bladders distorted by prostatic obstruction furnish hiding places for debris which are almost inaccessible.

In cases complicated with prostatic enlargements the bladder should be attended to for three or four months after the operation. At least once a week the bladder should be washed out with the metal catheter and aspirator, as used in connection with the operation, in addition to self-catheterization and irrigation by the patient when necessary.

The effect of silver nitrate as a local application in cases of chronic cystitis with prostatic enlargement where there is a tendency to produce phosphatic condition is well known. The action of the nitrate, as with other salts which may be introduced into the bladder, seems to prevent molecular coalescence taking place in the bladder.

In six cases vasectomy was performed with the view of causing the shrinkage of the prostate. The operation appeared to do good in all these cases, first in rendering access to and from the bladder easier both as to micturition and the use of catheters, and secondly, in getting rid of the slimy mucus which clings to the bottom of the bladder where it settles. Vasectomy was resorted to in instances where in addition to the recurrence of the stone serious symptoms of prostatic obstruction existed. The stone having been removed in the usual way by the lithotrity and aspirator, one was resected in the way described by the author (*The*

Lancet, Dec. 12, 1896) and seven days later the remaining one was treated similarly, about an inch of each tube being removed. The small wound heals under a collodion dressing in 48 hours.

Castration was not performed, as the writer believes that vasectomy should be tried first, being much less serious an operation. This subject is fully discussed in the *Lancet* article cited previously. In the cases of vasectomy referred to there has as yet been no recurrence of stone to the author's knowledge, and there has likewise been a general improvement in the symptoms connected with the enlarged gland which co-existed. Harrison concludes that the diminishing number of recurrences in the series was due not entirely to any additional pains taken in the removal of the stone, but partly also to the use for some time after of the evacuating catheter and wash-bottle and to the employment of vasectomy on recurrence in suitable cases, where there was much prostatic enlargement, practices which he has more recently adopted.

III. *Some Operations which may be Regarded as Alternatives of Litholapaxy.*

Because of various conditions and complications found in nine cases of stone, litholapaxy was not performed. In every instance recovery was complete and as far as the writer knows, permanent. The average age was about 46 years, while in the series of litholapaxies it was about 62 years. In three of these cases perineal lithotripsy was selected; in two suprapubic lithotomy; while in the remaining four, the boutonnière or median operation was employed.

Perineal Lithotripsy was performed in the first instance because of an extremely contracted and thickened bladder; in the second because of an unusually rigid or fibrous prostate which rendered the introduction of the short curved lithotrite exceedingly difficult; and in the third because of a very strictured urethra where the canal had become structurally unfitted for the crushing instruments. The stones in these cases weighed respectively 430 grs., 1,446 grs. and 480 grs. The advantages of perineal lithotripsy appear to be, (1) large stones can be crushed and evacuated in a short time; (2) it is attended with small risk of life as compared with lateral or suprapubic lithotomy and is well adapted to old and feeble subjects when for any reason crushing is inadmissible; (3) the bladder and any pouches connected with it can be washed out more effectually than by the urethra, as the route is shorter and the evacuating catheters employed are of much larger calibre; (4) the surgeon can ascertain either by exploration with the finger or by the introduction of forceps into the bladder that the viscus is cleared of all débris; (5) it enables the surgeon to deal with certain forms of outgrowth and obstruction complicated with atony of the bladder in such a way as to secure not only removal of the stone, but the restoration of micturition; and (6) by the subsequent introduction and retention of a soft rubber drainage-tube, cystitis due to the retention of urine in pouches and depressions in the bladder wall is either entirely cured or permanently improved.

Suprapubic lithotomy was successfully performed in two cases. In both, growth was also suspected but not discovered. The bleeding was so free and so readily excited that the cystoscope offered no assistance. Lithotomy was selected because it enabled the writer to explore directly the interior of the bladder, but no cause for the bleeding other than the calculus was discovered. The stones weighed 308 gr. and 900 gr. respectively.

In younger persons this operation is safer and less objectionable than in elderly men, in whom the mortality is considerable. The remaining cicatrix sometimes greatly interferes with complete micturition, and in several cases a rough scar

was shown on exploration as forming a holding-ground for phosphatic concretion; in one of these instances the scar was excised with advantage.

Median Perineal Lithotomy with Bladder Drainage was performed in four instances, for the removal of small stones which were incidental to chronically inflamed and suppurating bladders.

In all these cases nitrous oxide and ether were the anæsthetics employed. In elderly persons with weak hearts the ether stimulated the circulation markedly. No serious hemorrhages were encountered and the urine was rarely tinged with blood forty-eight hours after operation. The author recommends that sounding for stone be done under an anaesthetic, and that where it is practicable the stone, if found, should be removed on the occasion when first detected and the diagnosis made. The cystoscope was of great value in some cases, in clearing up doubtful points, for example, in determining the presence and position of pouches or sacs. In one case of encysted calculus not only was the stone seen, but its removal was facilitated by exact knowledge of its location. In another case the cystoscope clearly showed the impaction of a stone in the orifice of one of the ureters.

A. L. W.

Tuberculous Disease of Kidney Diagnosed by Catheterization of Ureter.—

PROF. ALBARRAN (*Bull. et Mém. de la Soc. de Chir. de Paris*, Oct. 11, 1899).

The patient was a man, 34, with no tubercular family history. Eight years ago the pleura was tapped for emphyema, and two years earlier he had gonorrhea. Four months before the operation, frequent micturition and dysuria set in and the urine became cloudy. He was treated for cystitis, which co-existed, the bladder was tender and could not hold more than 120 grains of liquid. The bacillus of Koch was found in the urine which contained pus and shreds of false membrane. Testicles and prostate were healthy, ureters not tender to the touch, nor were the kidneys tender. Cystoscope showed inflammation of the bladder, with a villous appearance around the orifice of the left ureter. On catheterizing the ureters, the urine from the right was found clear and free from albumen, or microbes, specific gravity 1,003, and a fair amount of urea. From the left ureter the urine was purulent, and contained diplococci, the colon bacillus, and, it was believed, the Koch bacillus. There was albumen, specific gravity 1,006 and very deficient in urea. The left kidney was therefore removed, with $4\frac{3}{4}$ inches of ureter, which was much inflamed though free from visible tuberculous disease. The renal disease was confined to the upper quarter of the kidney, which contained a tuberculous mass as big as a chestnut. Partial nephrectomy was out of the question. Twenty-four hours after the operation, the urine freely secreted, was perfectly clear. Thus catheterization of the ureter revealed unsuspected disease of the kidney by virtue of the suspicious appearance around the ureteral orifice.

A. L. W.

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Original Communications.

THE ETIOLOGY AND PATHOLOGY OF MALIGNANT DISEASES OF THE SKIN AFFECTING THE EPITHE- LIAL TISSUES.¹

By M. B. HARTZELL, M.D.,

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Methodist Hospital, Philadelphia.

OF the two great classes of malignant diseases affecting the skin, *viz.*: those which attack the epithelium and those in which the connective tissues are involved, I shall consider in this paper only the first. To attempt, in the time at my disposal, an adequate account of the pathology and etiology of all the malignant cutaneous diseases would be futile, embracing as such an account must, some of the gravest affections and most important questions in pathology; and I have, therefore, thought best to limit my remarks to some of the more important pathological and etiological features of those malignant diseases which affect the epithelium.

Epithelioma, or carcinoma as it occurs upon the skin and mucous membranes, is one of the commonest of the malignant neoplasms which attack the skin. Characterized by destructive ulceration, a marked tendency to recur after removal, and the formation of secondary cancerous deposits in the neighboring lymphatic glands, it may take its origin from any of the epithelium-containing structures of the skin—epidermis, follicles, sebaceous- or sweat-glands—but probably starts most frequently from the epidermis. Clinically, it is impossible in any

¹ Read at the Twenty-fourth Annual Meeting American Dermatological Association Washington, D. C., May 2, 1900.

given case to determine in what particular epithelial structure the neoplasm has had its origin; and it is almost as difficult to determine this microscopically, owing to the numerous secondary changes which occur early in the disease. Microscopic examination reveals a new growth composed of masses of epithelial cells extending into the connective tissue in the shape of variously sized, rounded lobules, or tubular processes reaching downward from the epidermis. In the lobulated form the cells which form the border of the lobules are usually of the columnar type, like those found in the lowest or basal layer of the rete mucosum, while those more centrally situated are of the squamous variety. In the center of many of the lobules peculiar structures known as "cell-nests" or "pearly bodies" are frequently seen. These cell-nests are cells which have undergone hyaline degeneration or cornification. Klebs asserts that through the multiplication of nuclei in some of the centrally-situated cells true multinucleated giant-cells are formed, and that these, by the deposition of other flattened cells around them, produce the so-called pearly bodies ("Allgemeine Pathologie," 2ter Theil). In the tubular variety of epithelioma the cells are usually somewhat smaller than in the lobulated, and the marginal columnar cells are wanting.

While we have learned that there is no such thing as a specific cancer cell, the cells of the new growth resembling in a general way those from which it has had its origin, yet there are numerous well-marked differences between many of the cells of epithelioma and normal epithelial tissue. Some of these differences arise from a profound disturbance of the mechanism of cell-division, others are due to various forms of degeneration. As was first pointed out by Klebs, and afterwards by Hanseemann and others, pathological forms of cell-division are of frequent occurrence, asymmetrical and multipolar mitoses being common. Many of the cells undergo degeneration of various kinds, the hyaline being the commonest and most important. Unna (*Dermatologische Zeitschrift*, 1894) enumerating no less than nine varieties of cell-form due to it. A frequent form of hyaline degeneration occurs as large, round oval bodies with a central cavity containing the remains of a nucleus, or it may be two or more nuclei, the whole surrounded by a thick homogeneous capsule, or a capsule composed of several concentric layers. Such cells have frequently been mistaken for forms of protozoa, but it is usually easy by careful examination to detect the remains of the prickles characteristic of rete cells. Liquefaction of the epithelium may take place forming spurious cysts, and in rare instances calcification may occur. So-called cell-inclusions are common, due to endogenous cell-formation, a mode of cell-growth

normal in certain of the lower organisms. Ruffer and Plimmer, who deny that this form of growth occurs in carcinomatous epithelium, prefer to call it cell-invasion.

About the margins of the neoplasm there is a round-celled infiltration, of varying extent, composed largely of plasma cells, the infiltrate being most marked in the rapidly growing varieties, and very small in those which extend slowly. It probably represents the reaction of the healthy tissues against the epithelial invasion, and possesses no specific significance.

Rodent ulcer, a slowly-growing but extremely malignant new growth, if we consider its destructive character and the persistency with which it returns after removal, was formerly excluded from the category of epithelioma because of its clinical peculiarities—very slow course and absence of metastases. The microscopic features of this affection, however, are such that it must be placed among the epitheliomata. The cells are considerably smaller than in the pavement-celled variety, and in stained sections but little more than elongated nuclei separated by a scanty, faintly stained protoplasm, are to be seen. The particular epithelial structure from which it takes its origin has not yet been determined positively. According to Tilbury Fox it begins in the external root-sheath of the hair, but more recently Norman Walker believes he has been able to demonstrate its origin in the sweat-glands. Metastases are rare after rodent ulcer.

Melanotic epithelioma, whose histogenesis has been so successfully studied by Unna and Gilchrist, in rare instances attacks the skin, beginning in most if not all cases in a pigmented naevus. Microscopically this growth presents an alveolar structure, the alveoli containing epithelial cells, many of which are large and contain several nuclei. Pigment is present in the connective tissue and between and in the epithelia, and is in some cases so abundant as to materially obscure the cell-structure. According to Unna the various forms of degeneration which so materially alter the cells in other varieties of epithelioma do not occur in this form.

Metastatic or secondary deposits which occur after a variable period in most cases of epithelioma, present features of great interest to the pathologist. It is a remarkable and instructive fact that the cells of the secondary growths are of the same character as those composing the primary lesion: and even when secondary deposits take place in organs characterized by a special form of cell such as the liver, the cells of the invaded organ take no part in the formation of the secondary tumor which invariably preserves the cell type of the primary one. It is likewise remarkable that, although infection takes place

by way of the lymphatic vessels, these themselves frequently escape. In other words, secondary infection occurs through the actual transference of minute portions of the primary growth, and the secondary tumors are formed by the proliferation of the cells of this transported fragment in its new situation.

In the ordinary forms of epithelioma no precancerous alterations of the skin have thus far been demonstrated, but without doubt they exist. In certain cases, however, chronic inflammations of the skin of varying type precede by a period of months or years the appearance of the malignant disease. An example of this precancerous dermatitis is presented in the so-called tar and paraffin cancer fist described by Volkmann and later by Tillmanns, Liebe, and others. It usually begins with an inflammation of the follicles, producing acne-like lesions; later a diffuse dermatitis occurs resembling at one time an eczema, at another psoriasis. Verrucous and keratotic lesions follow, and these finally terminate in epithelioma presenting the ordinary microscopic features of that disease.

Certain forms of keratosis are apt to be followed by cancer of the skin. These keratoses are such as are common after middle age—cutaneous horns and the brownish or black patches seen so frequently in the faces and on the back of the hands in the aged. As is well known, patches of senile keratosis are very often the forerunners of carcinoma. Debreuilli, who has had an opportunity to study this variety of keratosis, has found that in the beginning there is decided thickening of the corneous layer, but it is less compact than normal. The free surface is covered with slight elevations like miniature horns, while the under surface sends prolongations down into the mouths of the sebaceous- and sweat-glands. While the *rete mucosum* is thinner than in the normal condition, its cells are apparently unchanged. The *stratum granulosum* is very irregular, in some places wanting, in others greatly exaggerated, more particularly at the mouths of the sweat-glands. The sebaceous glands seem to be increased in size and number, and their orifices are dilated and filled by corneous plugs. In a later stage of the affection the papillary layer is infiltrated with mononuclear lymphocytes and plasma cells; "mastzellen" are likewise more numerous than normal. Slight prolongations of the epidermis begin to extend downward into the corium; and in some of the largest of these prolongations the lowest epithelial cells are swollen, vitreous in appearance, and separated from the rest of the epidermis by the cells which have infiltrated the derma. The final stage is that of ordinary epithelioma.

Another extremely interesting variety of precancerous keratosis,

both from an etiological and pathological standpoint, is that which follows the prolonged use of arsenic. Mr. Jonathan Hutchinson first called attention to this some years ago, and other observers have since reported similar cases. Such a considerable number of cases of palmar and plantar keratosis have been reported after the prolonged use of arsenic that it is scarcely possible to doubt that the arsenic stands in a causal relation to the keratosis; and, as in a limited number of cases epithelioma followed at the site of the keratosis, it is only reasonable to suppose that in some manner the keratosis prepared the way for the neoplasm.

The malady first described by Kaposi under the name xeroderma pigmentosum presents a remarkable series of pathological alterations. It begins with proliferation of the connective-tissue cells of the papillae, proliferation of the vascular endothelium, obliteration of some of the vessels and dilatation of others. Deposits of brown or blackish pigment occur in the rete and in the papillary layer, the pigment lying free in the lymph-spaces and between and in the epithelial cells. The origin of this pigment is uncertain. Pollitzer believes that it is derived from extravasated blood, while Neisser and Unna regard the pigmentation as a true melanosis, unconnected with hemorrhage. In the later stage of the disease irregular patches of keratosis are formed, whitish areas appear which are regarded by some investigators as due to atrophy, by others as the result of sclerosis; downgrowths from the epidermis begin to form, and these, continuing to grow into the corium, produce the final stage of the malady, carcinoma. One of the most remarkable features of this very remarkable disease is the multiplicity of the malignant neoplasms which have been reported as occurring in the terminal stage. Epithelioma, sarcoma, myxoma, angiomyxoma, all have been found by various investigators; but I am much inclined to agree with Unna that these are really all carcinoma, the resemblance to sarcoma and other new growths being due to metaplasia of the epithelial cells.

Under the name of sailor's skin Unna has described a form of disease occurring in adults which, clinically and histopathologically, resembles xeroderma pigmentosum. Like this latter affection, it begins with vascular alterations which are in time followed by deposits of pigment, hyperkeratosis, and carcinoma.

In Paget's disease, as in those we have just been considering, there is a long precancerous period during which the epidermis alone is affected. In this precancerous stage the rete is greatly thickened; many of its cells contain mitoses, while others are greatly swollen, being several times the size of normal epithelium, rounded instead of

polygonal in shape, their prickles in part or wholly lost. Cell-inclusions are also frequent. Beneath the diseased epidermis the corium is the seat of an abundant round-celled infiltration made up largely of plasma cells. After a time the corneous layer of the epidermis is lost in places, and the interpapillary portions of the rete begin to extend into the connective tissue of the corium. When the breast is the seat of the disease, as it is in the greatest number of cases, the milk-ducts are filled with proliferating epithelium which may be so abundant as to cause cyst-like dilatations of the ducts; or the wall of the ducts may give way, allowing the epithelial cells to grow into the connective tissue around it. Sooner or later carcinoma of the mammary gland occurs; but as it does not differ in any respect from ordinary carcinoma of the breast, I shall not enter into any details concerning its structure.

Heredity, age, traumatism, and long-continued slight irritations have long been considered as predisposing, in greater or less degree, to the occurrence of cancer. While heredity is no longer believed to play the important rôle formerly attributed to it, yet it is apparently well settled that cancer is apt to occur in successive generations of some families, due as is now believed, not to the inheritance of the disease, but to an inherited susceptibility to it. The influence of age upon the appearance of cancer is so very evident that it is no longer a matter for debate; in the great majority of cases the patient with cancer is past forty years of age, the exceptions to this rule being in most cases examples of rodent ulcer.

The causal relationship of traumatism to cancer was doubtless at one time greatly exaggerated; but the present tendency to deny it all influence is, in my opinion, not justified by the facts in our possession. Löwenthal (*Archiv. f. klin. Chir.*, 1895) has collected 800 cases of malignant tumor, including 119 cases of cancer of the skin and mucous membranes, in which an injury preceded the appearance of the neoplasm by a variable period. It is true that in very many of these cases the interval between the injury and the first manifestation of the disease was so long that any relation of cause and effect between them must be regarded as very doubtful, yet in a respectable minority it was so short—a few weeks—that it is difficult to deny some relationship. As illustrating the possible influence of injury upon the origin of cancer I may very briefly relate the following cases recently under my personal observation. A woman, 50 years of age, in perfect health, received a slight scratch upon the end of the nose from the finger-nail of an infant, which according to her statement, never quite healed but remained covered with a crust which was renewed when-

ever removed. When the patient came under my observation, some months afterwards, a shot-sized epithelioma was present upon the tip of the nose. This lesion was cauterized but soon returned, and a cure only resulted after the use of some quack plaster which destroyed a considerable part of the end of the nose. The second case concerns a man, between 50 and 60 years of age, who received a wound on the inner side of the lower lip in having a tooth extracted. At the site of this wound a typical epithelioma developed in the course of a few months. This was destroyed by caustic potash, but has since shown signs of returning. In these two cases it is difficult to resist the conviction that the wounds were in some manner responsible for the origin of the epithelioma. It is possible, of course, that they simply served as ports of entry for some infective agent.

As to the influence of long-continued irritation, I am only in doubt as to whether it should be placed among the predisposing or directly exciting causes of carcinoma; I have no doubt that in many cases it is directly or indirectly concerned in the production of the disease. A familiar example of this mode of origin is the so-called pipe-smoker's cancer of the lip resulting from the continued irritation caused by the stem of the pipe. Hansemann relates a very remarkable and instructive instance of this kind. A man who was accustomed to carry his pipe on the right side of the mouth developed an epithelioma in that situation. This was excised, and the patient then carried his pipe upon the left side. After a time a new carcinomatous lesion appeared upon the left side of the mouth, followed by glandular metastasis. This could hardly have been the result of mere coincidence. In this connection it is of interest to note that Ströbe was able to produce multipolar, *i.e.*, pathological, mitoses in regenerating tissues by the application of irritative stimuli.

Coming now to the consideration of the immediate causes of carcinoma, we find two sorts of theories proposed: First, those which suppose some defect in the structure or function of the epithelium inborn or acquired; second, those which suppose the abnormal growth to be due to some agent either acting upon or entering the tissues from without. In 1865 Thiersch proposed the theory that, owing to senile change or other debilitating cause a disturbance of the equilibrium normally existing between the tissues by which they are kept within their proper bounds, took place, permitting the epithelium to grow into the connective tissue. The most famous theory and the one which counted the greatest number of adherents, was that of Cohnheim, who found the cause of malignant tumors in a defect of the embryonal arrangement of the tissues. He supposed that at an early stage of embryonal development more cells were produced than were needed for

the completion of certain parts, and that in consequence remnants of such cells were left which, owing to their embryonal character, possessed unusual powers of multiplication, and these remnants were potential tumors needing only some slight impulse to start them growing. This theory is, no doubt, true for certain non-malignant tumors, but among other defects it fails to explain the fact of malignancy—normal epithelium is not infectious. Moreover, it has been shown that such embryonic epithelial remnants are the rule rather than the exception in certain localities, such as the jaw (Malassez), but epithelioma is not, as one would expect if the theory were true, more common in this region than elsewhere.

Ribbert supposes that carcinoma may arise from epithelial cells which have been removed from their normal relations by disease or accident, such cells continuing to proliferate in their new surroundings. In connection with this theory an experiment performed by Lack and recently reported is of much interest (*Jour. Path and Bact.*, August, 1899). The milky juice obtained by scraping the cut surface of a rabbit's ovary, containing numerous free epithelial cells, was allowed to diffuse through the peritoneal cavity. The animal experimented upon remained well for nearly a year, but then began to emaciate, suffer from dyspnea, and show other evidences of ill-health. It was killed, and upon post-mortem examination numerous tumors varying in size from a pin-head to an olive were found in the abdomen, the uterus, the diaphragm, and the pleura, while the whole mediastinum was occupied by one large mass of tumor tissue. The liver was enlarged and contained many cysts. Microscopic sections of the various tumors showed alveoli lined by one or more layers of columnar epithelium, and in the liver were alveoli almost filled with cells which had lost their columnar shape. It is Lack's opinion that carcinoma results from the entrance of normal epithelium into the lymph-spaces and its growth there. He also refers to cases in his own practice and in that of others in which malignant disease (carcinoma and sarcoma) has been implanted in wounds during operations upon such growths. While the theories which we have just been considering are useful as throwing some light upon the histogenesis of carcinoma, they fail at many points to explain its etiology.

Cancer possesses a considerable number of features, clinical and pathological, which suggest the possibility of its being an infection. It occasionally occurs endemically, and even with unusual frequency in certain houses. The well-established possibility of its transference from one person to another, as from husband to wife, and its transference to contiguous parts, as from lip to lip, or in the female geni-

talia from one labium to another, or from the eyelid to the conjunctiva, are extremely suggestive of infection, although it must be granted that this is not the only possible explanation of such occurrences. The behavior of the lymph-glands and the occurrence of cachexia are also features which are most readily explained by the theory of infection. Lastly, certain structures which apparently are foreign to the organism and resemble in many points parasitic bodies have been found by many observers. In 1887 Scheurlen announced the discovery of a bacillus in cancer which he regarded as the exciting cause of the malady; but it was soon shown that this bacillus was only a saphrophyte and was not always present. In 1889 Darier described certain round or oval bodies present in Paget's disease which he believed to be coccidia but it was not long before these so-called coccidia were proven to be nothing more than forms of cell-degeneration.

A little later (1890) Russell found certain structures present in cancer, which he named "fuchsin bodies" on account of their special reaction to this stain; these he believed to be parasites connected with the production of the neoplasm. The exact nature of these bodies is still a matter of dispute, but many, if not all of them, are probably degenerated epithelial cells. Soudakewitch, Ruffer and Walker have also reported the finding of parasitic "protozoa" in cancer.

Since the discovery of the pathogenic properties of the yeast-fungus through the researches of Busse and Gilchrist, this organism has assumed an important place in the parasitic theory of cancer. Roncali, Sanfelice, Plimmer, and others have found bodies in the cells of cancer which they consider blastomycetes. Sanfelice (*Zeitschrift f. Hygiene*, 1898), experimenting with a variety of the yeast-fungus known as the *Saccharomyces neoformans*, found that this organism occurs in a two-fold shape in the tissues of animals, and that one of its forms is entirely similar to the fuchsin-bodies of Russell. If pure cultures of the *Saccharomyces neoformans* are inoculated into the organs of the dog they give rise to epithelial malignant tumors which are similar to malignant tumors in man, both as regards their structure and course. Plimmer (*Practitioner*, April, 1899) found parasitic bodies, supposedly blastomycetes, in 1130 out of 1278 cancers examined. From a rapidly growing cancer of the breast he also succeeded in isolating an organism which was capable of producing tumors in animals which caused their death. This organism was a round body provided with a capsule and having a central portion resembling a nucleus, although Plimmer did not regard it as such, this central part differing in its staining reaction from the cell-nucleus. He concludes from his experiments that certain round bodies are to be found in the cells of can-

cer which are peculiar to this neoplasm, being very abundant in certain rare forms. These may be cultivated outside of the body, and by inoculation of the cultures in certain animals, tumors (endothelial only, thus far) and death may be produced.

Coates has quite recently reported a case of tumor of the lower lip which had been diagnosticated clinically as an epithelioma. It was excised and microscopic examination showed a marked hyperplasia of the epithelium presenting the appearance of a squamous-celled epithelioma, and miliary abscesses containing blastomycetes. I may remark in connection with the report of this case that not every epithelial hyperplasia constitutes an epithelioma: and I am not convinced that the microscopic features of this case resembled epithelioma so much as the epithelial overgrowth which accompanies many chronic inflammatory processes in the skin, *e.g.*, lupus vulgaris.

In concluding this rapid and entirely inadequate survey of the etiology of carcinoma we may regard it as fairly well demonstrated that this neoplasm results from a profound and more or less permanent alteration of the mechanism of cell-division. This alteration may, in my opinion, result from long-continued irritation of a mechanical or chemical kind, including under this latter the effects of toxins resulting from micro-organisms. Accordingly it seems likely that the immediate causes of cancer are multiple.

The causes of xeroderma pigmentosum are extremely obscure, but it may be assumed that, owing to the early age at which the malady begins and the frequency with which two or more members of the same family are affected, some inborn defect of the skin exists. Unna believes that it is due to a special susceptibility of the skin to the chemical light-rays; that the deposit of pigment is an effort of the skin to minimize the effect of the light; and that the pigment by its action upon the epithelial cells causes the abnormal growth of epithelium characteristic of the final stage of the disease. Kaposi, however, points out the fact that the pigmentary and other changes are not limited to the parts exposed to light.

We may here refer to the relation of pigment to malignant growths of the skin. It is well known that melanotic growths are often distinguished by unusual malignancy, growing with great rapidity and recurring with fatal persistency. It is quite possible that pigment exerts some toxic effect upon epithelium, producing a profound disturbance of the processes of the cell-division. Galcotti and other experimenters have succeeded in producing pathological mitoses precisely similar to those observed in epithelium of carcinoma by the

application of various toxic substances, such as chloral, quinine, nicotine, antipyrine, to dividing cells.

Among the causes which predispose to the occurrence of Paget's disease, age and sex are the most important. The majority, indeed almost all, of the cases thus far observed have been in women, only a very few having been seen in men. The disease is rare before forty, and most common between the ages of fifty and sixty. Of the direct causes we know almost nothing. The psorospermial theory of Darier, to which allusion has already been made, was soon shown to be without foundation. It is likely that the irritation and injury to which the nipple is exposed during nursing play some part in the production of the diseased condition of the epidermis which precedes the cancerous affection of the mammary gland. To attribute this to irritative influences proceeding from a previous cancer of the milk-ducts, as has been done by Thin, is to entirely misapprehend the real course and nature of the disease.

RECURRENT EPIDIDYMITIS.

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IN medical literature epididymitis is described as acute and chronic. Some subjects, after an initial outbreak, evince a marked tendency to recurrent attacks from causes which provoke congestion and irritation of the urethra.

This being the case, it is evident that inflammation of the urethra is the primal cause of epididymitis and that such inflammation must be located in or extend to the prostatic sinus, where the testicular ducts empty.

Various theories have been advanced to explain the occurrence of swollen testicle as a complication of urethritis. The only tenable one, however, is the direct propagation of the inflammation from the prostatic sinus through the vas deferens into the epididymis. During an acute attack of urethritis the inflammation from some cause or other has reached the prostatic portion of the urethra, while in chronic urethritis some chronic focus located in the prostatic urethra is lighted up by such excitants as sexual strain, alcoholic excess, instrumental manipulation, etc.

This paper has particularly to do with that class of cases which

may be termed recurrent epididymitis, in which there is a tendency to consecutive outbreaks of inflammation of the epididymis at varying intervals from relatively slight provocation. The following is a case in point: C. L., whose habits are those of the man about town, consulted the writer during the past year on account of epididymitis, having had five or six previous attacks of the same malady. None of these, excepting the first one, had appeared as a complication of recent urethritis. They had been of varying severity, generally following upon sexual excitement, and all sufficiently severe to compel confinement to bed.

Curling¹ in his much-quoted treatise has called attention to those cases in which the gland becomes "painful and swollen from slight causes" after it had once been attacked by inflammation. He mentions the case of a married man whose testicle always became swollen and tender following coitus, and continued uneasy for two days afterward. He had had two attacks of epididymitis several years before, which had left an induration behind.

Curling states that a testicle which has once been the seat of inflammation is afterwards more liable to become involved. That such should be the case is not unnatural, but that there exists a marked variation in the vulnerability of different testicles there can be no doubt. The writer has been consulted by one individual (No. 19) who had developed epididymitis thirteen times, three attacks being on one side and ten on the other. This patient was a man of moderate habits and and not given to excesses of any kind. His attacks had all followed sexual excitement and in most instances were not associated with antecedent urethritis. A marked induration remained in both epididymes. The prostate, although not sensibly enlarged to rectal touch, was slightly sensitive; the urine was clear except for a number of shreds. The washing of the urethra following a nocturnal emission was examined by the writer and found to contain *numerous well-formed spermatozoa*. The semen had been previously examined elsewhere with the same result. In contradistinction to this case many others may be cited (Nos. 1 to 9) in which one or two attacks of gonorrheal epididymitis had occurred, but although the patient subsequently had several attacks of urethritis the testicle remained unaffected in spite of, in some cases, persistent chronic urethritis.

Chronic urethritis does not by any means always result in epididymitis. Gout, rheumatism, and tubercle exercise a predisposing influence, but is there in the testicle itself, as some writers aver, a condition which, in connection with a damaged posterior urethra and under

¹ "Diseases of the Testis," 1878.

proper exciting influences, calls down into the testicle an acute inflammatory outburst, and if this be the case, is inflammation of the testicle more likely to occur in those cases in which, following an antecedent epididymitis, the vas deferens has remained unobstructed than where the latter has become permanently occluded?

The amount of induration remaining in the testicle after epididymitis varies greatly. It may be round or oblong in character; it may be confined to the globus major or minor, or may involve the whole epididymis. The sensibility of the testicle is also variable. The condition persisting after one or two inflammatory attacks of epididymitis may be a neuralgic sensitiveness with painful paroxysms following coitus, rather than a definite tendency to inflammatory exacerbation as in the case cited by Curling and many others reported.

Inflammation of the posterior urethra is not alone sufficient to occasion recurrent attacks of epididymitis even in cases that are submitted to instrumental manipulations, in those that acquire new attacks of urethritis, whether or not they be careless in their habits, or even in individuals possessing a presumptive tuberculous predisposition; but all of these conditions have a greater or less share in the causation of the malady under consideration. Double epididymitis, as is well known, is likely to result in occlusion of both the ducts and to entail a consequent loss of procreative power; but that this does not always happen, even though both testicles are attacked by inflammation several times, is demonstrated in Nos. 16, 17, 18, and 19, in the accompanying tabulation of cases.

What is the reason, then, that some subjects who contract epididymitis once are particularly prone to recurrent attacks, while others who are submitted to all the causes likely to result in such a recurrence fail to develop this malady? This paper has not been written for the purpose of answering this question, but is intended to present certain evidence bearing upon it—evidence derived from a tabulation of clinical cases and from the results obtained by vasectomy, employed in some of the persistent cases as a radical means of relief.

Resection of a small portion of the testicular duct severs the connection between the gland and the urethra, and accomplishes surgically what Nature tends to do in the majority of cases after inflammatory epididymitis. To be sure, it permanently obstructs the way of the vital seminal element on that side. It does not, however, affect the testicle in so far as its virility is concerned. It does not induce atrophy. No beneficial effect need be expected upon the prostate. In fact, one of the cases in which the operation was performed was a prostatic and obtained no relief except in controlling the tendency to relapsing epi-

didymitis. The operation is very simple and may be done in the groin or preferably in median raphé of the scrotum. The vas deferens is isolated, two silk or catgut ligatures applied, and about a quarter of an inch resected.

In the following cases vasectomy was performed upon patients who had been nagged, harassed, and confined by severe attacks of epididymitis, had lost much time from business, and therefore preferred to submit to operative interference rather than undergo a prolonged course of treatment with doubtful result and a continuous liability to recurrence of their malady.

A—C. S., had been married for eight years. During the first few months of married life he had been surprised during coitus by an unexpected interruption. This occurrence was followed by a swelled testicle. Subsequently the same testicle suffered repeated relapses. He consulted the writer during an acute attack of epididymitis, which had been pronounced gonorrheal by his attending physician. Vasectomy was suggested and accepted. Within twenty-four hours after the operation the inflammation in the testicle subsided and within a few days the urine, which had previously been purulent from urethral discharge, became perfectly clear and the patient was discharged from the hospital. Two years after the operation the patient was seen and in spite of continuous coitus has had no recurrent epididymitis and no further trouble.

B—N. P.; hypertrophy of prostate and cystitis, complicated by acute relapsing epididymitis and double hydrocele. Double vasectomy performed, with the result of immediate relief as far as the testicles were concerned, and no recurrent inflammation in those organs after two years, in spite of a continuance of the symptoms due to the prostatic hypertrophy.

C—A. A.; chronic prostatitis and seminal vesiculitis; chronic relapsing double epididymitis causing intense pain and great disability. Double vasectomy; no recurrent epididymitis after two years, in spite of a continuation of chronic prostatitis and later prostatic abscess.

D—B. A.; double acute relapsing epididymitis causing great pain and disability. Double vasectomy; immediate relief from testicular trouble; no recurrent epididymitis.

N. B.—In all of the above cases the sexual power remains unimpaired and the patients have expressed great satisfaction on account of the relief from pain and distress afforded by the operation.

Most of the following clinical cases have been extracted from the records of Drs. Van Buren and Keyes. The remainder occurred in the joint practice of Dr. Keyes and the writer. Numbers 1 to 9 are

negative in their showing, being examples of an unlimited class of cases who have had epididymitis once without recurrence. Numbers 10 to 15 are cases of bilateral epididymitis without recurrence, in which the seminal ducts were probably occluded by inflammatory deposit. Numbers 16, 17, 18, and 19 are cases of recurrent epididymitis in which the seminal ducts were not occluded.

1. G. B. F. Epididymitis unilateral with gonorrhea. Seven years later new urethritis, treated by sounds and injections. No recurrent epididymitis.

2. E. F. D. Two attacks of epididymitis on one side and once on other one year later. Sounds and injections; no recurrence.

3. S. H. Unilateral epididymitis with gonorrhea. Five years later sounds and injections; no recurrence.

4. E. R. H. Bilateral epididymitis with posterior urethritis; tuberculous family history; one and three years later sounds and injections; no recurrence.

5. M. J. K. Unilateral gonorrheal epididymitis. New gonorrhea two years later and posterior urethritis; no recurrence.

6. W. H. W. Bilateral epididymitis twice. Two years later acute urethritis. The patient is a drinker and has had chronic posterior urethritis ever since first attack. Sounds and injections; no recurrence.

7. G. T. P. Bilateral gonorrheal epididymitis. New infection six months later; no recurrence.

8. A. B. Bilateral epididymitis during treatment for retention of urine. Prostatic. Seven years later had considerable difficulty from cystitis. Instrumentation; no recurrence.

9. B. H. Acute urethritis accompanied by double epididymitis. One and two years later has posterior urethritis, treated with sounds and injections; no recurrence.

10. A. H. Bilateral epididymitis at the age of twenty; married several years later; no children; no spermatozoa in semen; no recurrent epididymitis.

11. I. T. J. Bilateral epididymitis; married later. Became an excessive smoker and drinker, and on account of the illness of his wife suffered much from ungratified sexual desire, but in spite of this had no recurrent attacks of epididymitis and was unable to impregnate his wife after frequent attempts.

12. W. H. D. Bilateral epididymitis; urine clear. Was an excessive drinker and in spite of this and of chronic urethritis had no recurrent epididymitis. Unable to impregnate his wife. Urine after intercourse contained no spermatozoa.

13. P. O. Bilateral epididymitis. Married two years later; wife not impregnated after six years of matrimony. No recurrent epididymitis in spite of chronic prostatitis, instrumentation, and excessive sexual intercourse.

14. P. B. Bilateral epididymitis. Ten years later married; no recurrent attacks; no children. Semen examined; no spermatozoa.

15. A. C. F. Bilateral epididymitis. Married several years later; no children; no spermatic elements; no recurrent epididymitis.

16. M. McM. Posterior urethritis; lump in testicle a remnant of gonorrheal epididymitis six years previously. Married and has two children. One year afterwards a new attack of gonorrhea, which is accompanied by a recurrent swollen testicle.

17. R. C. B. Double epididymitis one year after matrimony. First child born about fifteen months after matrimony. Had recurrence of double epididymitis four years after matrimony. In spite of this his wife continued to present him with children and also had several miscarriages.

18. T. P. T. Had several attacks of epididymitis in both testicles. At time of first visit had posterior urethritis. Was married subsequently and had several children.

19. O. H. B. First acute attack of urethritis in connection with gonorrhea seventeen years ago on left side. Seven or eight attacks subsequently on same side and two or three on right side. Examination of semen two years ago reveals presence of spermatozoa and of also of washing of urethra within several weeks of present writing.

The following conclusions seem to be justifiable from the foregoing cases:

1. Surgical resection of the testicular ducts which obliterates the lumen entirely and positively prevents an ascension of the spermatozoa into the urethra also prohibits the descent of inflammation from the urethra into the epididymis.

2. The pathological occlusion of the ducts by inflammatory process only accomplishes this result partially since it is clearly in evidence that many of the cases having had double inflammatory epididymitis still continue to suffer from a recurrence of inflammatory attacks in the epididymis, and since it is also proven that some of these individuals continue to have vital spermatozoa in their seminal discharges and to retain the capacity to impregnate their wives. I am not aware that this point has been clearly demonstrated before this writing.

109 East Thirty-fourth Street.

THE TREATMENT OF MALIGNANT DISEASES OF THE SKIN.¹

BY FRANCIS SHEPHERD, M.D., C.M.,

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TO treat very fully this subject would require more time than the Association would be prepared to allow: that is, if all the methods of treatment of malignant disease were discussed. So I shall not attempt any elaborate dissertation but only speak of the practical points as seen from a surgical standpoint.

As a surgeon who has had to treat all kinds of malignant disease, wherever situated, treatment by excision of the growth and the removal of the lymphatic channels and the adjacent lymphatic glands, seems to be the most scientific and the best procedure in the majority of cases, but in certain forms of malignant disease of the skin, especially where it is superficial, curetting, actual cautery, and the subsequent application of caustics is of benefit. We all now believe in the local origin of cancer, and also that wherever found it should immediately be got rid of by whatever means seems best to the medical man in charge, whether by knife, caustics, curetting, or a combination of methods. The disease being in the first instance local, it naturally follows that the treatment should be local: constitutional treatment other than that needed to support the patient is of no avail. Although many remedies have been recommended from time to time, all have proved to be broken reeds, and how could we expect otherwise? It is just as futile to attempt to treat carcinoma by constitutional measures as it is to thus treat stone in the kidney or bladder. The only hope of radical cure lies in early and complete removal.

As I intimated above, there are two methods of local treatment, by excision and by chemical means: both methods have their ardent advocates. I, as a surgeon, favor excision in the great majority of cases, though I think some cases are suitable for treatment by caustics. In all cases of carcinoma of the skin and elsewhere, it is most important to remove the lymph-channels and lymphatic glands in the neighborhood, for instance in epithelioma of the lip; mere wide removal of the local

¹ Read before the American Dermatological Association at Washington, D. C., May 2, 1900.

growth is not sufficient, but it is necessary to thoroughly clear out the contents of the submaxillary triangle on the same side in which the disease of the lip is situated. I have seen not a few cases in which the growth has been thoroughly removed, by knife or caustics, remain perfectly free for a year or more, and after this the patients may return with extension of the disease to the glands in the submaxillary space; in some cases the disease was not confined to this region but had extended to the carotid glands. The formidable cutting operation which this extension involves is one of considerable danger to the patient and gives but little hope of ultimate success. Had it been undertaken in the first instance, the chances of the patient would have been much increased. Oftentimes it is impossible to detect slight enlargement of the submaxillary lymphatics without opening up the submaxillary space and even if the glands are not specially affected, early removal of the glands is good prophylactic treatment and renders the patient's future much more safe.

The weak part of the treatment by caustics is that it postpones the removal of the lymphatic tissue and glands in the neighborhood. I believe that there may be infection of the glands, and yet the microscope, not be able to detect it, and that in all cases as a precautionary measure, if for nothing else, all the neighboring glands and lymphatic tissue should be as far as possible excised in all cases of malignant disease, especially when it occurs in such places as the tongue, the lips, the penis, the scrotum, vulva, etc.

The magnificent results which surgeons have, in the last few years, achieved in operations for cancer of the breast, have been due altogether to the recognition that cancer is first a local disease, and therefore must be early and completely removed; and secondly, that it spreads by the lymphatics. So now in every case where cancer of the breast is even suspected, not only is the breast removed but also the two pectoral muscles which contain lymphatic vessels, and all the axillary lymphatics with their glands; in fact, the only structures left in the axilla are the arteries, veins, and nerves. Should the axillary glands be infiltrated the clavicle is divided and the supraclavicular glands and tissues are carefully removed. By this means a large proportion of cases which would previously have been regarded as hopeless, are now enjoying robust health and are useful members of society. In Paget's disease of the nipple I should advise a radical operation, namely, the removal of the whole breast, for in those cases we cannot afford to take any chances in the hope that milder measures may cure the disease; if these milder measures fail and recurrence takes place, then the chances of the patient's getting *cured* of the disease are much

less. In cases where the skin is loose and can easily be excised the removal of the growth by excision is undoubtedly the only method which should be employed.

In cancer of the penis, the removal of the lymphatic glands in the groin is most important, as the lymphatic trunks in the skin of the penis so rapidly carry infection to the nodes. Should the disease affect the glans penis the case is more hopeless, for the lymphatics of the solid part of the penis connect with the internal iliac glands, and, hence, extirpation of the affected glands is practically an impossibility. In such cases early removal of the entire penis may prolong the patient's life for some time, if it does not prevent any return of the disease.

I admit that there are certain malignant ulcerations of the skin which, if seen early, may be successfully treated by caustics, especially in those slow-growing forms which are seen in regions somewhat removed from glands, such as on the nose, forehead, cheeks, temples, etc.; in cases of rodent ulcer, where the disease is of slow growth and the glands in the neighborhood do not become affected rapidly, and where the ulceration is superficial, then other means than excision by the knife may be employed.

Caustics are also most useful when the disease has affected the bone. Free curetting and the after application of caustics, such as the acid nitrate of mercury, or the application of the actual canterly, have in many cases proved satisfactory in my own experience. In cases of epithelioma engrafted upon old lupus, curetting and cauterization has, when the affection is somewhat superficial, given excellent results. Early cases of malignant ulceration do well with caustics, but unfortunately we do not very often see such cases; when the ulcer is deep and circumscribed, wide excision by the knife, in my opinion, gives the best results and causes but little deformity if followed by skin-grafting after Thiersch's method; or, better still, by the transplantation of the whole thickness of the skin.

I fear surgeons and dermatologists will never agree entirely as to the treatment of malignant ulceration of the skin—the one advocating the knife in every case and the other the proper application of caustics. No doubt the truth lies between the two. Surgeons are opposed to caustics because so many cases of malignant disease come under their care which have been improperly treated by quacks, and, hence, they condemn *in toto* such forms of treatment; but I am sure if caustics be properly applied, the opinions of surgeons would change. Dr. A. R. Robinson says truly that very few surgeons have ever used caustics,

and when they have they have used them improperly, and consequently the result has generally been failure.

I confess, my experience with caustic pastes has been small and that by training and tradition my preference has been for the knife. I still believe that cancer of the breast, lip (other than extensive superficial areas), penis, scrotum, vulva, etc., are best treated by free excision with, at the same time, thorough removal of the lymphatic glands and tissue in the neighborhood. As I said above, there are early conditions when cancer in the glands cannot be detected by the microscope nor can the glands themselves be said to be enlarged, yet in there may be a few cancer cells, which many months afterwards may develop, grow, and multiply rapidly.

Parenchymatous injections of alcohol, nitrate of silver, hydrochloric acid, acetic acid, chloride of zinc, and other substances, have been used from time to time, but the results generally have not been encouraging, the subsequent gangrene, sloughing, and suppuration being a source of danger. The good results obtained by the promoters of these methods have been more manifest than when this mode of treatment has been made use of by others. Lassar has reported cases of cure of cancer by the internal use of arsenic while at the same time it is injected into the growth.

The use of toxins obtained from cancerous growths, first advocated by Adamkiewicz in 1893, has not had any success when employed by others, and has been practically discarded by the profession. The toxins of erysipelas, as advocated by Coley, have been more successful in sarcoma than in carcinoma.

If caustics are employed in the treatment of cancerous growths, they should be used very thoroughly, no playing with carbolic acid, nitrate of silver, and other mild caustics; they only do harm. Chloride of zinc, arsenious acid, caustic potash, and pyrogallic acid are the chief caustics used. Ravogli of Cincinnati advocates formaldehyde in strength from 4-40 p. c., increasing the percentage gradually.

Caustic potash is very severe, but answers well in many cases. It may be used in solid thick or saturated solution. Chloride of zinc is the favorite caustic with many; it is used in the form of a paste, spread on lint, and should be left on the diseased part four to six hours. It is generally employed with arsenic, as Bougard's paste; Crocker recommends its use with opium and hydrochloric acid.

Arsenious acid is perhaps the most valuable caustic of them all, especially in epithelioma. Marsden's paste is made from two parts of the acid and one of gum acacia. Robinson holds that the strength and duration of the application should vary according to the cancer to be

treated; he never uses the paste weaker than equal parts. The paste should not be applied to normal epidermis, but if the cancer is deep the skin should be first destroyed by erosion or caustic potash and then the paste applied. The paste should always cover an area immediately beyond the apparent limit of the tumor and should be left on eight to twenty hours (Robinson).

Many believe the action of arsenic is elective in character and that the best results are obtained with the least destruction of normal tissue, that inflammation may be produced which will destroy the cancer cells but not normal tissue. If, when the paste is removed, the destruction of the growth has not been sufficient, the paste should be reapplied until the desired result is obtained, and then the resulting ulcer should be treated as any other simple ulcer would be.

Should the disease to be acted on be in a state of ulceration, curettage previous to the application of the arsenious paste is a good procedure and hastens the action of the caustic.

Electrolysis has been used by some to disperse small cancerous nodules, but I have had no experience of it. Dr. G. B. Massey (*Medical Record*, April 7, 1900) treats carcinoma and sarcoma by a method which he says involves "the cataphoric diffusion of nascent salts of mercury, inserted by a gold anode into the growth while the patient is under an anesthetic." The process lasts from two to two and one-half hours. He claims to have cured absolutely six and possibly two out of thirty inoperable cases submitted to him. The process acts much like caustics, the immediate effect being the production of an area of necrosis "beyond which extends a zone of sterilization where the malignant germs are killed without destruction of normal tissue." The method, as far as I know, has not been tasted by others, though Dr. Massey has been employing it since 1893.

Treatment by analine dyes, such as methylene blue and pyoctanin, are recommended by some, and cures by means of these measures have been reported, and in some cases where absolute cure did not result it was claimed that the growth was arrested and the pain relieved.

Sarcoma of the Skin.—When single and localized, early and complete excision is the best treatment. In this way, by timely removal, the disease can be prevented spreading to other parts. In cases of multiple non-pigmented sarcoma, the hypodermic injections of arsenic, as introduced by Köbner, has been successful in many cases. Fowler's solution is usually employed diluted one-half of distilled water. Of this solution, $2\frac{1}{2}$ to 4 drops are injected once a day and gradually raised in quantity up to 9 or 10 drops; most of these cases were months under treatment.

Attacks of erysipelas have occasionally caused sarcomata to disappear; Coley has inoculated, with success in some cases, a combined toxine of erysipelas and the bacillus prodigiosus. It is more successful in cases of spindle-celled sarcoma; in carcinoma the results have not been encouraging. I have used these toxines in many cases of sarcomata without any other result than getting a very violent reaction.

Society Transactions.

NEW YORK DERMATOLOGICAL SOCIETY.

287TH REGULAR MEETING, MARCH 27, 1900.

C. W. ALLEN, M.D., *Chairman pro tem.*

A Case for Diagnosis.—Presented by DR. G. H. FOX.

The patient was a man who had had for eight or ten years an ulcerated hand presenting an appearance suggestive of blastomycetic dermatitis.

DR. A. R. ROBINSON said that the condition suggested either tuberculosis or blastomycetic dermatitis, but he would not be prepared to make a diagnosis without a microscopical examination.

DR. S. SHERWELL was of the same opinion.

DR. E. B. BRONSON said that the case looked to him like lupus or a tuberculosis.

DR. H. H. WHITEHOUSE concurred in this opinion.

DR. GEORGE T. JACKSON was inclined to consider it a case of tuberculosis or lupus, as were also Drs. Eliot and Dade.

DR. LUSTGARTEN thought it was a case of lupus papillaris serpigginosis.

DR. J. A. FORDYCE favored the diagnosis of lupus, and Dr. Allen also inclined to this opinion.

DR. G. H. FOX said that Dr. Ewing had examined a section of the skin, and had reported that signs of tuberculosis were entirely wanting. There were no traces of miliary tubercles, but a few imperfect giant cells were discovered in several cellular areas. These might occur in any chronic inflammation. Close inspection showed a great variety of cells and infiltrated areas, with large and small lymphocytes. Very few mast cells were discovered. There were no traces anywhere of capsulated blastomyces or similar micro-organisms. The specimen had not yet been stained for tubercle bacilli, but it was unlikely that these bacilli could be detected in this way.

DR. FORDYCE suggested that a guinea-pig be inoculated to see if it would develop tuberculosis.

DR. GEORGE T. ELLIOT said that it was a well-known fact that the more a lupus had been treated, the less the probability of finding tubercle bacilli in sections in suspicious cases. Unless blastomycetes or tubercle bacilli were found, the microscopical examination would afford little aid in making the differential diagnosis between the two processes. From the photographs that he had seen, and the descriptions that he had read, he thought there was a very decided difference in the clinical appearance of the two. He saw no good reason for considering present case one of blastomycetic dermatitis.

DR. FOX thought it was safer to adhere to the diagnosis of tuberculosis in these doubtful cases unless the blastomyces were found.

A Lesion of the Tongue.—Presented by DR. DANIEL LEWIS.

The patient was a man about thirty-five years of age, who had been referred to him a few days ago for operation on a disease of the tongue which had existed about eight months. There was an indefinite history of his having had an eruption on the body for upwards of fifteen years, and at the present time there were patches scattered over his arm. There was a history of syphilis.

DR. FORDYCE was inclined to think that the tumor in the center of the tongue was an epithelioma. It had apparently developed upon a syphilitic lesion.

DR. LUSTGARTEN took much the same view, but thought such a case required a more exhaustive examination before one could express a positive opinion.

DR. FOX said that from the appearance of the tongue, and from the rapid improvement, he thought the case had been originally syphilitic, and that a continuance of the antisiphilitic treatment would effect a cure. He had seen a somewhat elevated lesion of the tongue disappear under such treatment alone.

DR. ROBINSON said he would not be willing to make a diagnosis in this case until he had an opportunity of most carefully scrutinizing by daylight the margin of the lesion. The probability was, from the location and general appearance, that it was syphilitic.

DR. SHERWELL also inclined to the notion that the case was syphilitic. He would want to give a thorough course of antisiphilitic treatment before resorting to operation.

DR. BRONSON thought there could be no doubt about the lesion having been originally syphilitic.

DR. BULKLEY thought the location of the lesion on the center of the tongue pointed much more strongly to syphilis than to epithelioma.

DRS. KLOTZ, JACKSON and WHITEHOUSE also expressed the same opinion regarding the probability of syphilis and the possibility of epitheliomatous degeneration.

DR. ALLEN advised that a prolonged course of antisiphilitic treatment be given before operating. He was of the opinion that a great many syphilitic tongues were operated upon under the supposition that they are epitheliomatous.

DR. LEWIS said that this patient presented some features similar to one observed in a patient who had been under his care fifteen or twenty years ago. In that case there had also been a lesion in the center of the tongue. He had operated, and had been surprised to find that it was not epithelioma. Fortunately he had not removed all of the tongue, and the man had remained well ever since, with the exception of certain occasional manifestations of syphilis. There had been no further trouble with the tongue. The man just presented had been first seen by him only one week ago, yet the central elevated border of the tongue had been reduced just one-half in size, and several other elevated nodules had disappeared under the use of ninety grains of iodide of potassium daily, and injunctions of a ten per cent. oleate of mercury. As an additional precaution he thought it would be well to destroy the central portion in any case.

DR. ROBINSON asked why Dr. Lewis would use caustics in such a case. Butlin laid great stress on the inadvisability of using caustics on the lesions of late syphilis of the mouth.

DR. LEWIS replied that he saw no objection to using the perchloride, and had used it without any apparent harm.

A Case of Pityriasis Rosea.—Presented for DR. J. M. WINFIELD BY DR. SHERWELL.

The patient was a girl of eleven years on whom the roseolous eruption had first appeared on March 1st. It had spread over the arms, and then on to the back. She was in perfect health, and although the other members of the family had been sleeping with her, they had not developed any such skin affection. This seemed conclusive proof that the disease is not contagious.

DRS. FORDYCE, JACKSON, and BULKLEY accepted the diagnosis.

DR. BRONSON said he thought it was quite a typical case of pityriasis rosea, especially the lesions on the arm.

DR. ALLEN said that he had seen a great many cases of pityriasis rosea—quite a number since the last meeting. He had seen a case beginning on the chest as a typical eruption, and by the time it had reached the legs the trunk was absolutely free from eruption. The clinical appearance of the leg was now almost as typical of ringworm as the chest lesions had been of pityriasis rosea. He had also seen recently a little girl who had had on the chest only four or five insignificant lesions. While under observation the lesion had spread in the region of the axilla, and had then skipped down to below the umbilicus. The lesions on the lower part of the trunk were quite scanty. This peculiar distribution and manner of spread seemed to him to point to a parasitic origin rather than to an auto-intoxication. In this case he had made a mild chrysarobin application with promptly beneficial effects, new lesions ceasing to appear.

DR. BULKLEY asked what was the treatment at the present time for pityriasis rosea. He had been impressed with the large number of cases that had improved more rapidly under a 1:1,000 bichloride solution than under anything else that he had used. In one case particularly, that of a girl of eighteen, the eruption had vanished in two or three weeks.

DR. ALLEN said that the parasitic remedies did seem to act better than others—a point by itself in favor of the parasitic theory of its origin.

DR. FOX said that a good way of applying the bichloride was that suggested by Dr. Taylor, viz.: a solution of bichloride in tincture of benzoin. This is a varnish which is most excellent for strictly localized applications. When the eruption is general, it is hard to look upon the disease as parasitic.

DR. ELLIOT asked how long it took to cure these cases with antiparasitic remedies.

DR. ALLEN replied that the time was very variable, according to the length of time the eruption had already existed, the extent and the nature of the case. Some cases would take five or six weeks at least to be cured.

DR. ELLIOT said that writers on this subject maintain that this disease runs a definite course and lasts for a definite period—usually about two months. It is strange that if it is a parasitic process that the numberless investigations made have not revealed in any instance the causative germ. Vidal found once the *Anomalon* dispar, but neither he nor any one else has ever seen it since in connection with the disease.

DR. BULKLEY remarked that in one of his cases in which the eruption had only existed for about six days, a cure had been effected between two and three weeks. The eruption had been universal, but quite superficial.

DR. DADE said that he never thought of treating these cases, yet they invariably recovered satisfactorily, in some instances within four weeks.

DR. ROBINSON said that the most severe case he had ever seen had been in a prominent physician of this city. It had been universal, had lasted four weeks,

and had recovered without any medication whatever. The palms and soles were affected.

DR. FOX said that in his experience the disease had often run an acute course—a few weeks—but in many others it had lasted for months in spite of the most approved antiparasitic treatment. He thought the cause was always internal, and that local treatment was at best only palliative.

DR. ELLIOT said that he looked upon all these cases as being of internal origin. Intelligent patients invariably gave a history of intestinal disturbance preceding the outbreak for several days. He had always considered the process as a form of toxic erythema of internal origin. He did not employ any antiparasitic treatment externally.

DR. BRONSON asked if any of those present had seen the disease occur epidemically. He felt sure that he had met with a series of cases of this kind. These had been entirely distinct from ringworm.

DR. LUSTGARTEN said that he had observed this disease from time to time in small epidemics, and had commented upon it on previous occasions before this society.

DR. FORDYCE said that a year ago he mentioned having seen two cases of pityriasis rosea in two sisters occupying the same room, the lesions being upon the chest.

DR. ELLIOT would certainly explain this case on the basis of similar habits of life, and the same diet. Because two in a family had the same disease did not by any means suggest contagiousness of the disease.

DR. ROBINSON said that at the time he had seen this severe case in the physician he had observed six or seven other severe cases, all within a period of a few weeks. Certainly these particular ones seemed to be infectious in character. He was inclined to believe that several different conditions were at present included under the one name of pityriasis rosea.

DR. SHERWELL said that he could not believe in the parasitic origin of this disease. He knew of a lady who had had three separate attacks of the disease occurring during lactation, and at no other time. In the case under discussion the eruption seemed to him typical in its appearance, location and development. He had found this affection almost invariably improve and rapidly too, by the use of a mixture of bichloride of mercury in an emulsion with bitter almonds. This application was exceedingly soothing, a matter of some importance, as this disorder is sometimes accompanied by troublesome itching. He was positive that the disease is modified, and its duration lessened, by treatment.

A Case for Diagnosis.—Presented by DR. G. H. FOX.

The patient was a healthy, well nourished infant of nine months, presenting an abundant eruption on the face, body and limbs, most marked on the lower extremities. No bromides or iodides had been administered. The mother stated that the baby had had frequent "colds in the head."

DR. ROBINSON said that at first glance he had thought the case to be syphilitic, but closer examination made him feel pretty sure that it was a drug eruption, probably from a bromide. The child was too healthy to be syphilitic, and the perianal region was comparatively free. It could not be denied that a few of the lesions closely resembled those of syphilis.

DR. SHERWELL felt positive that it was a drug eruption, and bromide at that.

DR. BRONSON was inclined to think it was a syphilitic eruption, although the appearance of the child was not that of one suffering from such a severe grade

of syphilis. However, if the eruption were syphilitic, he would expect to find more breaking down of tissue, and more lesions of the mucous membranes, but it was not impossible that this was an anomalous case of syphilis.

DR. BULKLEY could not see anything of importance in this case to suggest syphilis. Moreover, the good general health of the baby was entirely opposed to such a view. The lesions were just those seen from such drugs as iodide and bromide. The lesions were apt to be particularly severe after the administration of a mixture of iodide and bromide. The mother had stated that the child had received some medicine for a glandular swelling about the neck, and this made it probable that iodide had been given. Even though this had been done long before, such lesions might arise from this source.

DR. KLOTZ did not think the case was syphilitic.

DR. H. H. WHITEHOUSE said he could not believe that such an extensive eruption in a baby so young could be due to anything else than some drug like iodide or bromide. The lesions about the face were certainly not specific, and the pitting that had been left was more characteristic of a bromide rash.

DR. G. T. ELLIOT said that a syphilis which would produce such an eruption must have been very active, and yet there were no traces of syphilis about the corners of the mouth, or on the mucous surfaces, or about the anus. Again, there were no syphilitic bone lesions. He thought the mother might have been in the habit of taking bromides to induce sleep, or possibly the baby had been given sleeping medicines. At any rate, the eruption, in his opinion, was a typical bromide manifestation.

DR. JACKSON said that he had taken the eruption for one produced by drugs when he had first seen it, and he was still of that opinion although the history was entirely opposed to this view. He had made the diagnosis on the appearance of the eruption and the healthy state of the child. There was no history of syphilis in the family, and the other children appeared to be perfectly healthy. The case, in its clinical features, was an exact counterpart of a case of bromide eruption that he had presented to this society some years ago.

DR. DADE said that it did not suggest syphilis to him at all. It had not appeared until the child was six months old, which was against syphilis. It could not be a secondary lesion, and escape the body, and he could not see how it could be a tertiary lesion and be so symmetrical, aside from the condition of the mucous membranes and the good general health of the child. These eruptions arise directly out of the sound skin.

DR. LUSTGARTEN thought a close examination of the eruption pointed very strongly to a drug eruption, most probably from iodide. The location was quite characteristic, and where it had healed there were quite superficial atrophies entirely out of proportion to the density of the infiltration. Close examination showed aggregations of small pustules—a grouping already described by others. He would expect a bromide eruption of this duration to have a more florid tinge.

DR. FORDYCE said it was possible for iodide or bromide eruption to simulate syphilis closely. He had seen hereditary syphilis in well nourished children, and with the mucous membranes exempt. He personally thought the case was syphilitic.

DR. ALLEN said that the discussion of this case, when published, should be accompanied by a very careful description, or by a good photograph. He was continually seeing children who appear the picture of health, and yet are unquestionably syphilitic. There were some lesions in this case which, if taken alone,

were surely very suggestive of syphilis. The picture, as a whole, without a history, would suggest a drug eruption—a bromide eruption. He had been recently called to see a case of cutaneous disease that had puzzled a number of physicians. The appearance had been so characteristic that he had not hesitated to say to the attending physician that it was a bromide eruption in spite of the fact that the latter assured him no bromide had been given. It was learned subsequently that the woman had been taking secretly every night for a considerable time large doses of the bromides to induce sleep.

DR. FOX said that the mother of this child insisted that she had with her the prescriptions of the only medicines that the baby had received. These were found to be two in number—one for Fowler's solution of arsenic, and the other for the tincture of the chloride of iron. He was free to admit that the eruption resembled one produced by syphilis. The good general health and the absence of lesions around the mucous orifices did not positively exclude syphilis.

DR. ELLIOT suggested that the baby be given the iodide or the bromide of potash, or the two combined, and nothing else, for the next month, and so settle the question.

A Case of Symmetrical Atrophy of the Skin and Syphilis—Presented by DR. J. A. FORDYCE.

The patient was a woman who had been presented about four years ago as a case of symmetrical atrophy of the skin of the type described by Dr. Bronson. It had begun on one hand; then spread to the other hand, and then to the ankles. There had been a swelling of the part and pain there, followed by atrophy. About one year and a half ago he had presented her with certain lesions on the leg resembling rupia. These had disappeared under the influence of iodide of potassium. She had had certain peculiar nervous symptoms associated with ocular paralysis. Lately a lesion had developed on the left forearm, which was undoubtedly syphilitic. He was now inclined to believe that the whole process was syphilitic in nature. Microscopical examination of sections of the skin showed an obliterating process in the small vessels. If the lesion of the hand was due to syphilis, it was certainly an undescribed syphilide.

DR. LUSTGARTEN said that the case impressed him as one of idiopathic atrophy. There were not present the sharply defined outlines which one expects in syphilis. The case seemed to him to be a combination of two different processes.

DR. WHITEHOUSE took the same view.

DR. BULKLEY said he had had a similar case years ago in a syphilitic woman, but in that instance the ulnar nerves had been swollen.

DR. BRONSON thought there was no intimate connection between the syphilis and the atrophy of the skin, although the former might have been a predisposing cause. In this case the symmetry was not as pronounced as in some other cases, including the one he had himself described.

DR. SHERWELL said that the atrophy about the knees did not seem to him of the same order as that in the hands. Just as in leprosy he thought there might be first of all an irritation neurotic in character; then excessive nutrition, followed by hyperplasia; then anesthesia and analgesia; then destruction of the skin. This seemed to him an adequate explanation.

DR. FOX said that he had known a syphilitic neuritis to produce this glossy condition of the skin and deformity of the hand, just as is seen in leprosy, but he had never known syphilis to produce such an atrophy of the skin as was present on the knees and hands in this case. Inasmuch as this atrophic condition was

seen in persons who are not syphilitic, there seemed good reason to believe that the atrophy has not always the same origin.

DR. FORDYCE was inclined to think that the whole process from beginning to end was syphilitic. In the sections of the skin there were certainly obliterative changes in the vessels, such as are seen in syphilis. The fact that the nervous phenomena had been present, and had disappeared under the use of iodides led him to think that the case was essentially syphilitic. The ulcerative lesions on the legs had also disappeared rapidly under the use of the iodides.

A New Application of the Cutaneous Punch.

DR. DANIEL LEWIS described a new application that he had recently made of the cutaneous punch. In operating upon a case of cancer of the lower jaw an abscess had developed along the incision together with a salivary fistula. It had occurred to him to make a channel for the saliva through the mouth with the punch. He had done this, punching out such a channel with an instrument of this kind, one-eighth of an inch in diameter, the punch being applied from the outside. He had then closed up the external wound, and sealed it with collodion.

Dr. Sherwell's Case of Xanthoma Diabeticorum.—DR. SHERWELL reported that all the lesions had practically disappeared. There was still glycosuria, but no albuminuria.

Dr. Fordyce's Case of Seborrheic Dermatitis.—DR. FORDYCE reported that the eruption had entirely disappeared under salicylic acid and sulphur.

DR. A. R. ROBINSON reported on a case presented two months ago—that of a florist with a peculiar inflammation of the hands. He had carefully examined the case, and had found no blastomyces, but only staphylococci.

NEW YORK DERMATOLOGICAL SOCIETY.

TWO HUNDRED AND EIGHTY-EIGHTH REGULAR MEETING, HELD ON APRIL 24, 1900.

JAMES C. JOHNSTON, M.D., *President*.

A Case of Polymorphic Sarcoma Cutis.—Presented by DR. S. LUSTGARTEN.

The patient was a man who had been in good previous health. Dark red spots had first appeared on the thighs, and had gradually extended all over the extremities. The condition had improved very decidedly under treatment with arsenious injections. He receives daily one-third of a grain of the arsenite of sodium.

DR. GEORGE T. ELLIOT said that the case impressed him rather as one of mycosis fungoides than sarcoma. The diffuseness of the infiltration, with the preceding eczematous condition led him to make this statement. This patient resembled a case presented two or three years ago by Dr. Lapowski, which he had understood had since developed into the well known type of mycosis fungoides.

DR. G. H. FOX said that there was nothing about this case that would lead him to think of mycosis fungoides.

DR. H. G. PIFFARD looked upon it as a superficial diffuse sarcomatosis, but he did not recall having seen such a case described at any time as a distinct type. He recalled a case which microscopically was granuloma fungoides. It was treated

subsequently with Coley's antitoxins, and became worse thereby. Sometimes these cases develop masses which occasionally fungate. In the absence of any fungation at the present time he saw no reason for calling it mycosis fungoides.

DR. S. SHERWELL said that the case under discussion had been under treatment which had probably changed its appearance. However, it closely resembled cases that he had been accustomed to call mycosis fungoides. He recalled cases which had developed buddings. He looked upon the case as a diffused sarcoma. He strongly believed in the treatment instituted by Dr. Lustgarten, and was not at all surprised at its good result.

DR. H. H. WHITEHOUSE looked upon the case as one of superficial sarcomatosis.

DR. J. C. JOHNSTON said that he had examined under the microscope a section from this case, and had found a remarkable morphological resemblance between it and specimens of lymphatic leukemia. It was evident, therefore, that the diagnosis would be a clinical one, and it seemed to him that the features of this case resembled those of a mycosis. He did not think any case of mycosis had been reported in which the growths had been arrested by the use of arsenic.

DR. LUSTGARTEN deplored the tendency exhibited in the discussion to quibble over terms and neglect the distinguishing clinical features. The case was one of the forms of sarcomatous tumors, and the mere fact that there was a preceding eczematous condition should not be sufficient to make the diagnosis of mycosis. All cases of mycosis, in his opinion, were itching ones.

DR. ELLIOT said that in absolutely typical cases there were three stages, viz.: (1) The eczematous stage; (2) the lichenoid stage, and (3) the tumor stage. In many cases one or the other of these stages is omitted. Sometimes only the lichenoid stage is present. Sometimes the tumor stage first makes its appearance. He saw no reason for calling the case one of sarcoma.

DR. PIFFARD said that confusion was apt to arise from our use of terms. A mycotic disease was surely one due to some vegetable parasite, e.g., the blastomyces. If this use of the term were proper, the use of the term mycosis for the disease in which such organisms are absent could not be considered appropriate.

DR. LUSTGARTEN said that the term mycosis had been originally intended to describe a rapid fungoid development observed clinically.

DR. FOX said that this case certainly resembled, in the infiltration of the skin and in the pigmentation, other cases of sarcoma, but it certainly did not correspond to any cases of mycosis fungoides that he had seen at any stage. In cases that he had seen there had always been a good deal of hyperemia—bright red patches with a clearly defined outline. He felt certain that this case would not ultimately develop the characteristic growths of mycosis fungoides.

DR. JOHNSTON remarked that in true sarcoma there was an intracellular substance which could be brought out by Van Gieson's stain, whereas granuloma fungoides is characterized by the presence of lymphoid cells, of irregular shape between which no such material has been demonstrated.

A Case of Epithelioma on the Breast.—Presented by DR. S. SHERWELL.

The patient was a woman, thirty-four years of age, having an epithelioma on the left breast; and she was presented as an example of the class of cases which he believed were better treated by erosion and potential caustics than by the knife. Dr. Sherwell said that he had operated upon six or seven cases of the kind in the past two weeks. He had recently treated the subject in detail in an article in the *Medical Record* of April 30, 1900.

DRS. WINFIELD, LUSTGARTEN AND WHITEHOUSE agreed in the diagnosis of epithelioma of the skin.

DR. C. W. ALLEN said that from the appearance of the border he would take it to be an epithelioma of the skin. He was opposed to the use of caustics in tumors of the breast, because it was so easy by reason of the laxity of tissue to cut wide of the disease here. He had within the past two weeks excised such a tumor from the back. Beginning as a pigmented mole it had grown and become irritated until it was about one inch and a half in diameter. The operation had been done entirely painlessly under Schleich's infiltration anesthesia. On the other hand, he continued to apply pastes to epithelioma of the face, particularly of the lip and near the eye.

DR. JOHNSTON said that a large number of amputated breasts had been sent this winter to Cornell Medical College Laboratory for examination. These breasts had been removed by the extremely radical operation now so commonly practised. In one case, although the incision had been made about seven inches from the nipple there was a distinct carcinomatosis of the corium beyond.

DR. ELLIOT said that he had dozens of epithelioma of the lip sent to him for examination, and there had very frequently been found buds of the disease cut across in the line of the incision.

DR. SHERWELL said that he had known cases of epithelioma of the lip that had not recurred for periods of twelve or fifteen years, so that it was proper to say that some of them had been absolutely cured. He believed that when the glands of the axilla had once become infected in carcinoma of the breast nothing was accomplished by the removal of the breast, the thoracic glands, etc., are sure to be affected. On account of the size of the growth in this case he expected the free use of the acid nitrate of mercury would lead to pytalism, but this would not give him any concern.

A Case of Colloid Milium.—Presented by DR. J. M. WINFIELD.

The patient was a boy who had had for the past six or seven months an eruption on the face.

DR. A. R. ROBINSON looked upon the case as probably one of adenoma sebaceum.

DR. WHITEHOUSE concurred in this opinion.

DRS. ALLEN and SHERWELL supported the diagnosis of colloid milium.

DR. LUSTGARTEN thought it was a case of so-called colloid milium that would probably turn out to be a follicular tuberculosis on microscopical examination, as many such cases proved to be.

DR. ELLIOT did not think this case showed any resemblance to the original description of colloid milium. It did, however, resemble cases of lupus miliaris, but whether this or adenoma sebaceum he did not care to say without making a microscopical examination.

DR. FOX said that he had three cases of eruption on the face in which the appearance resembled so-called colloid milium, yet microscopical examination showed follicular tuberculosis. The case under discussion presented very much the same clinical appearance, and quite different from the cases of adenoma sebaceum that he had exhibited before the American Dermatological Association.

A Case of Grouped Keratosis Follicularis.—Presented by DR. G. H. FOX.

The patient was a woman whom he had presented some months ago with a follicular keratosis. Now, it seemed evident that the eruption was made up of follicular keratotic plugs in groups.

DR. LUSTGARTEN suggested that it might be a very early stage of Darier's disease.

DR. ALLEN remarked that Darier's disease had come into his mind as a possibility. He did not recall having seen a case of keratosis follicularis distributed in this manner over the trunk. It should certainly be studied under the microscope.

DR. FOX said that he could hardly believe it was so serious a disease as Darier's because it had yielded readily to a strong application of carbolic acid.

A Case for Diagnosis.—Presented by DR. C. W. ALLEN.

The patient was a young man having a general reddish papulo-vesiculo pustular eruption of about one week's duration. It had begun in and about the groin and was associated with considerable itching and with loss of appetite.

DR. ELLIOT said it might be an aggravated case of scabies, and Drs. Dade and Jackson took the same view.

DR. LUSTGARTEN thought it was some parasitic disease, though not scabies, as the characteristic features of the latter disease were lacking. It might be called a follicular eczema.

DR. WHITEHOUSE said he thought he had found a pretty distinct burrow on the thumb indicative of scabies.

DRS. JOHNSTON and WINFIELD thought they had found burrows on the back of the hand, and Dr. Piffard concurred in this diagnosis.

DR. ROBINSON said that he had seen a number of cases in which there were numerous inflammatory lesions on the back of the patient's with scabies.

DR. ALLEN said he was certain that it was not scabies. The lesions on the fingers were deceptive. There were bunches of firm walled grouped vesicles between the fingers. The eruption had begun in an excoriation in the groin, produced by a suspensory bag which the patient had worn. A druggist had given him an ointment to apply to this excoriation, and this had been followed by the development of the eruption. The patient had recognized on investigation the odor of iodoform as being that of the ointment he had used. From this Dr. Allen had inferred that the eruption was due to iodoform, having seen and reported several instances of generalized dermatitis after local use of the powder. He had tested the urine for iodoform, but with negative result.

DR. ELLIOT asked why if the eruption was general the face had been left free, and the eruption had followed the localization so commonly observed in scabies.

DR. ALLEN replied that there had been erythematous lesions on the forehead looking like urticarial wheals, but these had disappeared.

A Case of Dermatitis Papillaris Kaposi.—Presented by DR. FOX.

The patient was a man presenting hard nodules on the back of the neck.

DR. LUSTGARTEN accepted the diagnosis, and stated that people affected with this disease are usually thick-necked brunettes.

DR. FOX said that the name dermatitis did not seem to him very appropriate, and he had never seen it extend up on to the scalp as described by Kaposi.

Case for Diagnosis.—Presented by DR. KLOTZ.

Samuel Clay, 65 years of age, resident of the Borough of the Bronx, employee of the U. S. Custom House, born in Newark, N. J., has always been in fair general health except for occasional not very severe attacks of rheumatism. For several years white spots (of vitiligo) have begun to appear on his face. In

August, 1899, without any apparent cause and rather suddenly the skin on the right side of the neck and face, soon after but in a less degree the left side of the face and back of both hands became hard and scaly with moderate itching. The patient was sent to my service in the German Dispensary by his physician four weeks ago. He did not complain of any other sensation but that of stiffness and difficulty in moving the face. Over all the affected parts the skin without any regularity or definition in its outlines, was perfectly smooth, hard and dry to the touch, of a grayish blue color, somewhat resembling Japanese paper. The skin could be easily drawn into folds, but did not show the natural elasticity. The corneous layer of the epidermis seemed principally affected, although in lifting up the skin it fell as if it was thickened. On the right hand a number of round almost white spots could be noticed, over which the epidermis looked more scaly, divided into folds like in ichthyosis. The affection heretofore had not been favorably affected by any treatment, it had been the same in winter as in summer. Under the use of 2 per cent. salicylic acid paste the condition is fast disappearing.

The conditions do not seem to fit into any of the acknowledged types of disease, the epidermis and particularly the corneous layer are probably those principally affected. The round white spots on the right hand have a peculiar appearance, whereas some doubt whether they are part of the vitiligo or part of the other affection.

DR. KLOTZ showed photographs of a child affected with **Bromid Dermatitis** in the shape of tuberculous swellings on the right leg and face, closely resembling the case recently presented by Dr. Fox.

The patient, Eugene B., 1 year old, was treated for 3 weeks with a mixture containing bromide of sodium, for some bronchial affection when the eruption began to appear on the face, later on the leg.

When the child was first seen at the German dispensary about 2 weeks ago the large tumors were all covered with crusts and dried on pus, numerous small pus foci would be seen within the tumors. Besides these there were numerous pustules partly covered with crusts, partly unbroken and still filled with pus partly bullae with clear contents. They had more or less disappeared after a few days' treatment with a mild solution of bichloride of mercury. I have no doubt that an impetigo, that is some cocci infection had complicated the original bromic eruption.

Book Reviews.

The International Medical Annual,¹ 1900. New York. E. B. Treat & Co.

It seems to the reviewer that the work in this year's volume is better than any which has previously come to his notice. Colcott Fox's work for it on the subject of treatment of skin diseases has always been well done; it is not his fault that the vaunted powers of the drugs recommended by the authors he cites, too often fails in other hands. Syphilis and genito-urinary disease have not, the remark applies particularly to the former subject, been so well done in a long while, either as to range of literature or completeness of abstract. Let the Thomas who doubts an advance in the therapeutics of syphilis, read the section on the new treatment of the disease by Marshall. Genito-urinary affections are divided between Saundby and Fenwick, the one considering the medical aspects, the other the surgical side of treatment. A word of reprobation is necessary as to the form of the references. They are nearly all given by dates only, no mention made of volume or page. The JOURNAL's readers, although they themselves are at times guilty of the same fault, know what a nuisance this is.

Progressive Medicine,¹ Edited by H. A. HARE, M.D. Philadelphia and New York. Lea Bros. & Co. March and June, 1900.

The first of these quarterlies contains Blackader's review of the Surgery of Head, Neck and Chest, Da Costa's Diseases of Children, Packard's Infectious Diseases, Hektoen's Pathology, Turner's Laryngology and Rhinology and Randolph's Otolaryngology; the Second Surgery of the Abdomen by Coley, Gynecology by Clark, Diseases of the Blood by Stengel and Ophthalmology by Jackson. Distinction is in the nature of things invidious when all this work is so carefully done, and moreover, judgment is probably a mere matter of personal leaning, but if any palm is to be borne, it would seem to belong to Hektoen. His is a particularly comprehensive summary and of special interest because of his consideration of the blastomyces, not only in blastomycetic dermatitis, but in its supposed genetic relation to carcinoma. As regards the latter, while he is not willing to deny that the intracellular bodies may be blastomycetes, he believes that most inclusions are formed by hyalin degeneration. Bra's absurd claims are dismissed with the biting criticism they deserve. Further along is an interesting section on ray fungi and their curious relation to bacteria of tuberculosis, diphtheria and glanders. Aside from any question of keeping himself *au fait* with the good work of the times, the dermatologist will find much to interest him in his own field in these reviews, subjects such as bronzed diabetes, pemphigus neonatorum, herpes in meningitis, etc., taken from sources which usually escape his attention. We may be permitted to reiterate that the conviction has become settled that it is the personal note of criticism which gives *Progressive Medicine* its value.

¹ These reviews were unavoidably delayed by the illness of the reviewer.

Christian Science. H. A. PURRINGTON, New York. E. B. Treat & Co. 1900.

This volume deals with Mrs. Eddy's turgid philosophy (?) from the standpoint of a sane and trained legal mind. Naturally, aside from a consideration of the principles of the cult so far as an outsider can get at them, the book is concerned with its relation to the law of the land and to society. The mind of the profession so far as it gives the subject a thought, is doubtless already made up, but it may find amusement as well as instruction in what a lawyer has to say.

Food for the Sick, and How to Prepare It, With a Chapter on Food for the Baby.

By EDWIN M. FRENCH, M.D. Louisville. John P. Morton & Co. 1900.

An excellent little volume of 156 pages. The subject matter is divided into the following headings:

Diets: In General Diseases, In Nerve Diseases, In Surgery; Methods of Cooking, Receipts for the Preparation of Food, Receipts for Enemata, Peptonized Food, and Food for the Baby.

The author in his preface modestly offers the volume to the consideration of physicians and nurses, but the reviewer feels that it will find greater application. The methods of cooking suggested and the receipts for the preparation of food make the book a valuable household guide, where it is not only essential that the foods recommended by the physician be given, but that they be prepared properly. The following of directions given by word of mouth cannot always be relied upon.

The little book is especially commended to junior and senior medical students and to younger practitioners. Many embarrassments in the early years of practice will be saved, if they acquaint themselves thoroughly with its contents. Here's hoping (see recommendations on the first page of the Index) that the little volume will find a wide field of usefulness.

Selections.

CUTANEOUS DISEASES.

Persistent Verrucous Urticaria.—J. V. HIELEMAN (*Bull. Med. and Surg.*, 1900).

The author publishes an account of a woman, 46 years of age, who had suffered for ten years from a trouble which began with intense itching of the arms and feet. The itching gradually extended to every part of the body. At the same time there developed upon the affected regions an eruption of wheals which, for the most part, soon disappeared. Some, however, persisted and became transformed into verrucous tumors and continued to itch. Some of the warty growths disappeared spontaneously, but others arose to take their place. The external borders of the arms and feet were particularly affected. Upon the forearm and left hand were about seventy verrucous outgrowths from the size of a hempseed to that of a cherry. About a dozen were situated upon the abdomen, back, and nucha. The thorax was free. There were a few upon the face. There was dulness at the apex of the left lung, with bronchial respiration. The microscopical examination of the verrucous excrescences showed thickening of the horny layer. The stratum lucidum and the stratum granulosum were much thicker than normal. The reticulum was hyperplastic, and the papillae were very much enlarged. In the skin, particularly in the papillae and subpapillary layer, was a thick infiltration of small cells. In the deeper layer of the integument and around the sudoriparous glands was a similar but less abundant infiltration. Between the cells of infiltration was a number of fat cells. Local treatment was of but little avail. Arsenic internally produced some amelioration.—*St. Louis Med. and Surg. Journal*.

[This is evidently another case of the disease reported by me in these pages under the title, "A Papular, Persistent Dermatitis." J. C. J.]

Mycosis Fungoides, A Constitutional Disease.—MALHERBE AND MONNIER. (*Arch. Prov. de Méd.*, March, 1900).

The patient was a woman thirty-eight years old. Her body was covered with itching lesions, and a large tumor of the right inguinal region coexisted, causing a high degree of edema of the limb. The exciting cause was apparently a trauma. The patient had been thrown from a bicycle, and the handle-bar had injured her groin. When first seen by Malherbe there was no suspicion of mycosis fungoides. She was seen again about seven months later. Her skin was then covered with the tumors typical of the disease. The general condition was becoming cachectic, and death followed within a very short time.

Autopsy.—The premycotic erythema was still in evidence on the arms and thorax. These chamois-like patches greatly resembled tinea versicolor during life. Many superficial tumors were present. They were of varied hue, and might be likened roughly to the tubercles of leprosy. Their favorite location was about

the vulva and inner aspect of the thighs; others were seated about the breasts and armpits.

Subcutaneous tumors were more numerous and varied much in size, the largest equaling the dimensions of an orange. One of these large growths represented the original tumor in the right groin. These subcutaneous tumors presented the same variety of colors—pinkish, dark brown, etc.—as did the superficial growths. Some of them presented the characteristic mushroom appearance of mycosis fungoides.

There were also numerous minute intradermic tumors, felt rather than seen, of the type originally described by Wickham.

Of especial interest in this case was the invasion of the lymph ganglia—corneal, axillary and inguinal—and of the breasts.

Within the thorax the peritracheal and periesophageal glands were greatly hypertrophied. There were nodules in the pleura and parenchyma of the lung. One tumor in the right pulmonary apex was of the size of a Mandarin orange. There were two tumors in the substance of the heart.

Within the abdomen the mesenteric glands were found enlarged. The liver was free from lesions, as was likewise the spleen. The kidneys contained mycotic growths, as did the uterus and ovaries. Many of these vesical tumors showed a distinct tendency to melanosis. The pancreas was almost wholly replaced by mycotic neoplastic tissue.

These tumors were not inoculable in animal experiments.

The authors say, in conclusion, that the case was essentially one of typical mycosis fungoides, and the first to be recorded in which there was a general participation of the viscera. Histologically there was no difference between these new formations and those found in Hodgkin's disease. There can be no doubt that mycosis fungoides is potentially a lymphadenoma (as Rouvier and Gillot believed a generation ago), and that under certain circumstances it may attack the viscera.

In the present case the authors observed marked leucocytosis, thus suggesting a connection between mycosis and leucemia.

In general, it would appear that there is a family group of malignant neoplasms comprising mycosis, lymphadenoma, lymphosarcoma, round cell sarcoma and leucemia.—(*Med. Rev. of Reviews.*)

Changes in the Skin in Paralysis Agitans.—By ROBERT REULING, M.D.
(*Maryland Medical Journal*, March, 1900, p. 120).

Reuling contributes an interesting study of the changes in the skin found in cases of paralysis agitans. He reports a case in a woman fifty-nine years old, in which the skin was examined microscopically. The author after examining six cases has found the changes first described by Fränkel in four. These changes consist of a well-marked thickening of the skin over an irregular distribution. The skin covering an entire extremity may be found thickened, and there may be smaller areas where a marked circumscribed thickening may be felt. The adherence of the skin to the subcutaneous tissues is very striking, so that it may be impossible to squeeze it into folds as in the normal condition. The most marked change is seen on the forehead. When the frontalis muscle is contracted, the folds of the skin lying over it remain as deep folds for some time after this muscle has been relaxed, giving what is known as the frontalis symptom described by Motschukowski, and which is regarded by him as diagnostic of this disease.

The writer also believes that the neuralgic pains and various paresthesias met with in the disease are produced by the constrictions of the sensory nerve supplying the skin, by the bands of fibrous tissue which constitute the thickening.

Direct relationship between the tremor and the skin changes has not yet been demonstrated, although the thickening is almost beyond exception more marked on the side of the body where the tremor first appeared. The disease is probably a primary affection of the central nervous system, with trophic disturbance of the skin, and pathological changes in the muscle; both being directly dependent on the changes in the nervous tissues.

A. L. W.

SELECTIONS—GENITO-URINARY.

Symptomatology, Diagnosis, Treatment of Neoplasms of the Kidney.—

L. L. McARTHUR, M.D. (*Jour. Am. Med. Ass'n.*, 1900, p. 641).

Two or more of the four cardinal symptoms are almost always sufficient to enable us to make a diagnosis: 1. Tumor in renal region. 2. Hematuria. 3. Pain. 4. Cachexia. In children almost the only symptom is tumor—pain is absent or ill-defined, hemorrhage in microscopic quantities and cachexia apparent when the tumor has existed some time. Hematuria is present in 50 per cent. of cases, and may be very slight or considerable. Occasionally blood casts of the ureter are found. They resemble angle-worms in shape and size, and are characteristic of slow bleeding from the kidney, permitting clotting of the blood in the ureter.

Pain is not a constant symptom, ordinarily dull in character, it is only acute when inducing obstructive colic, and is sometimes referred to bladder, groin or testes. Diagnosis is not always simple. Aids in determining the diagnosis are: 1. Careful study of the clinical history. 2. Exact and frequent examination of the urine. 3. Palpation with or without anesthesia. 4. Cystoscope, ureteral catheterization and exploration of sounds. 5. Direct exploratory incision (Rovsing).

In early youth sarcomata are the most common. They are of short history, rapid growth, large size and are prone to recur. Prognosis extremely bad. In adult life, Hildebrandt concludes "If the tumor is very large carcinoma is improbable. Very slow growth speaks decidedly against sarcoma and carcinoma, but decidedly for the strumas (adrenals) and angiomas."

About 20 per cent. of cases present neoplastic fragments after repeated examination of the urine. When blood is found the stain for tubercle bacilli should be made, as this is a frequent cause of hemorrhage and renal enlargement. When pus is found the stain for bacillus commune coli should be made, this being a causative agent in many pyonephroses (Guyon).

As to treatment, renal puncture is indicated for 1. Simple cysts. 2. Hydro-nephrosis. 3. Hydatid cysts. Nephrotomy is indicated for: 1. Cases where puncture fails. 2. Pyonephrosis. 3. Suppurative nephritis and pyelonephrosis. 4. Tubercular kidney. 5. Calculous disease. Nephrectomy must be done: 1. Where nephrotomy fails or would be useless. 2. In certain neoplasms. 3. For fistulæ. 4. For degenerated kidney.

A. L. W.

Renal Calculi.—M. L. HARRIS, M.D. (*Jour. Am. Med. Ass'n.*, 1900, p. 643).

After thoroughly reviewing the most recent literature on the causation factors in the formation of renal calculi, Harris thinks "we are justified in making the

statement that practically all kidney stones are of bacterial origin." Albarran's subdivision of kidney stones into primary (of non-bacterial origin) and secondary (of bacterial origin) is of great practical value. In primary stones the bacteria are eliminated by the healthy kidney. They develop in the urine in the tubules, calyces or pelvis, where they lead to stone formation without invading or setting up pathologic changes in the kidney proper. In secondary stones the kidney is already the seat of active bacterial invasion, and the stone formation is subsequent thereto.

The symptoms, diagnosis and treatment are also fully described. A. L. W.

Acute Gonorrhea and Its Complications in the Male.—A. E. GARROW, M.D.
(*Montreal Medical Journal*, 1900, p. 164).

Garrow briefly describes the symptoms of acute gonorrhea and its complications. The most satisfactory results have followed treatment by copious irrigations of weak bichloride or potassium permanganate solutions at a temperature ranging between 115° and 120° F. The glass catheter is preferably used for this purpose. Latterly each irrigation has been followed by an injection of a ½ to 2 per cent. solution of protargol, which is retained fifteen to thirty minutes. Irrigation is commenced at once and performed twice daily for four or five days, then daily so long as the discharge remains purulent and contains gonococci. When the discharge becomes thin and serous an astringent salt, usually combined with a vegetable astringent, is substituted. Salol in ten-grain doses three times daily is important especially in the first week.

Acute posterior urethritis is treated by rest in bed, hot hip baths, leeches to the perineum, hot irrigations, and injections of protargol. A. L. W.

Gonorrheal Arthritis.—By JAMES STEWART, M.D. (*Montreal Medical Journal*, 1900, p. 174).

Stewart reports his observations of 48 cases of gonorrhea arthritis in the Royal Victoria Hospital. Forty-two patients were young men averaging about 30 years, the remaining six were women.

An unsuccessful attempt was made to ascertain whether a previous rheumatic history predisposed to inflammation of the joints in a subsequent attack of gonorrhea, but no such relation could be made out. It was clearly shown, though, that an attack of gonorrheal rheumatism predisposed to another in case of a fresh urethritis, as nearly one-third of the cases gave a history of previous attacks of gonorrheal arthritis. The arthritis occurred at all stages of the urethritis; in five cases it occurred more than a year after the onset of the gonorrhea, which had existed in the chronic form. The continuance of the urethral inflammation may possibly account for the numerous relapses which characterized many cases. Most of the cases when admitted early did well, but at least half were left with partial ankylosis of some of the joints involved.

In seven cases the infection was confined to the heels and soles of the feet without any points being involved, while in three which might be termed septicemic cases, there were fever and grave constitutional disturbance with involvement of several joints.

The knee was involved in 29 cases, this joint being the most frequently attacked. Next in order of frequency were the heel and plantar fascia, 18 cases; then following in order, the ankles, small joints of the feet, elbows, shoulders, wrists and small joints of the hand.

The complications were few, endocarditis being the most common, having been present in 8 cases. The next most common complication was iritis, occurring in 4 cases and leaving adhesions in one. Conjunctivitis occurred in two cases; but no gonococci were found in the secretions, and no bad result was left.

As a whole the results were unsatisfactory. Only nine patients were discharged cured; these cases entered the hospital early in the disease, which might account for the poor showing of the other cases which entered late in the disease. The average duration of treatment in all cases was 34 days. Rest in bed and low diet was the routine treatment. No internal remedy was found to be of much value. Salicylates, salol, iodide of potash and the alkalies were employed without special result.

Hot air baths by the *Tallerman-Sheffield* apparatus were used in 36 cases, sometimes in combination with other forms of treatment. The affected joint was exposed to dry air heated to 300° F. for half an hour, repeated daily or every second day. Under this treatment the general condition of the patient was improved; there was an average gain in weight of one pound a week. In the mild and subacute cases there was marked relief of pain for the time being. In chronic cases the same good results were noted. In four cases with one joint involved, fixation by splints gave greater relief than hot fomentations. Massage in some of the chronic cases gave increased mobility.

A. L. W.

Curettage of the Male Bladder for Chronic Cystitis.—By NATHAN W. SOBLE, M.D. (*Buffalo Medical Journal*, June, 1900, p. 825).

In a paper read before the Rochester Academy of Medicine Soble reports a case of curettage of the male bladder for chronic cystitis.

The patient was 36 years old, and had suffered for two and a half years from an obstructive cystitis. The patient's weight had fallen from 170 to 120 pounds; micturition was very frequent day and night, and was attended with pain and strangury; it was relieved only by self-catheterization. The urine was alkaline, ammoniacal, containing over 50 per cent. by volume of sediment and pus. Repeated examination failed to reveal any specific germs. Under ether, capacity of bladder was four ounces.

Suprapubic cystotomy was performed; there was no stone or tumor, the cavity was small, the walls thickened and the mucous membrane apparently red and shining, generally smooth with rugosities near the trigone and at the internal orifice of the urethra. A catheter was fastened to the urethra and kept there three days; after that time the bladder was drained by syphonage, and irrigated with silver nitrate solution up to ten per cent. in strength, twice daily. This treatment improved the general condition of the patient, but had no apparent effect on the bladder itself.

After some time the bladder was curetted with a sharp uterine curette, the instrument penetrated into the bladder-wall for half an inch or more, in spite of the utmost gentleness being employed. The material removed proved to be a plastic deposit, covering the entire mucous membrane, rendered smooth and shining by hydrostatic pressure. Hemorrhage was not marked. Ten days later a second curettement was done. The cavity of the bladder was thus increased considerably and improvement was almost immediate. The urine became clear, and was normal in three weeks. After six weeks the wound healed, and the patient fully recovered, having gained thirty pounds in weight.

A. L. W.

Electrolysis as a Means of Curing Chronic Glandular Urethritis.—By GEORGE WALKER, M.D. (*Maryland Medical Journal*, March, 1900, p. 127).

Walker describes the method used in Kollman's clinic at Leipzig, in the treatment of chronic glandular urethritis by electrolysis. The Kollman electrolytic needle is employed; the electric current is applied by the aid of the endoscope to the diseased glands of Littre and crypts of Morgagni; each gland is treated separately, the action lasting from thirty seconds to three minutes in each case. A decided urethritis follows this treatment; this lasts several days and is best treated by mild astringents or boric solution irrigations.

Walker has employed this method in a number of old cases which had resisted all other forms of treatment; the results were eminently satisfactory.

A. L. W.

Exstrophy of the Bladder from Ulcerative Destruction of the Scar of a Suprapubic Cystotomy.—By LOUIS KOLIPINSKI, M.D. (*Maryland Medical Journal*, March, 1900, p. 129).

Kolipinski records the case of a man sixty years of age, who had thirteen stones removed by a suprapubic incision, in Vienna. The incision closed spontaneously in about four weeks. Some months later another stone was removed by crushing, and the patient remained well for four years thereafter.

He had been ill a month before he came to the writer for treatment, complaining of symptoms like those of stone in the bladder. The urine contained much pus and mucus. There was much pain and vesical distress. He then noticed a swelling at the level of the cystotomy cicatrix, about the size of a man's palm, slightly elevated, not painful. In twenty-four hours the scar tissue had grown thinner, had become bluish in color and seemed about to rupture. On both sides of the scar the swelling was now more prominent, the skin red and hard. No local or general increase of temperature. His frequently recurring desires for micturition had now ceased suddenly, and for twelve hours no urine was expelled or extracted. The scar tissue was then incised, and at the same time more than a pint of urine withdrawn with a catheter through the urethra. No calculus was found.

Following day the scar tissue began to slough, thus increasing the opening, and the posterior and superior walls of the bladder now protruded through the opening. The bilateral swelling and redness of the abdominal wall disappeared; there was no rise of temperature. Paroxysmal vomiting set in, which later became more prolonged. The vomit was green, then black and watery. The mind was clear throughout. The patient died on the fifth day after the operation. A hasty autopsy disclosed the bladder empty and contracted; the small intestine filled the hernial bulging of its upper and posterior portions; the kidneys macroscopically were normal, and there was no evidence of peritoneal infection.

A. L. W.

On Double Castration for Tuberculosis of the Testes.—By F. A. SOUTHAM, M.B., F.R.C.S. (*Brit. Med. Journ.*, 1900, p. 957).

Southam remarks that it is a strange fact that though most works on surgery recommend the removal of a tuberculous testis when the disease is unilateral, there seems to be more or less opposition to the removal of both glands when they are each involved in the disease.

Watson Cheyne has recently discussed this subject (*British Med. Journal*,

Dec. 30, 1899, p. 1781). He is opposed to double castration for this condition because of the deleterious effects following the loss of both testes; the patients lose interest in their affairs, become lazy, irritable, morose and sometimes demented or maniacal. A great many ultimately commit suicide. These mental disturbances are attributed to the psychical effect of the loss of the organs and the fear of consequent sterility, and also to the loss of their internal secretion, which is believed to exert a great influence upon the well-being of the patients.

Southam reports four cases in which he performed double castration for bilateral tuberculosis. Of the four, two of the patients are in good health, one nearly three years after operation, the other, two years after operation; one patient is wintering abroad in good health and spirits, the right testis having been removed in April, 1898, the left in June, 1899; the fourth case is at present in hospital suffering from tuberculous disease of the ankle-joint, which had existed the time of operation on the testes in September, 1899. So far the operation has had a beneficial effect on the comfort and general health of the patients, and as yet there is no evidence of the disease having extended since the operation to other portions of the genito-urinary tract.

Some Forms of Cystitis.—By A. A. LONDON, M.D. (*Intercolonial Med'l. Jour. of Australasia*, 1899, p. 557).

London describes several forms of cystitis, adequate descriptions of which he is unable to find in the current text-books on the subject. Under the term "catarrhal cystitis" he describes a form of cystitis which may be acute or chronic, in which pus does not appear from beginning to end of the disease, and in which there is no tendency to decomposition of the urine in the bladder." In these cases there is no necessity for washing out the bladder, as the symptoms rapidly subside under the administration of drugs such as benzoic acid, borax and buchu.

Another form of cystitis described is that in which the urea is decomposed, the urine being strongly ammoniacal when passed, turbid in appearance, a copious deposit of triple phosphates taking place, and without any tendency to suppuration. Washing the bladder is also of little avail in these cases.

In a third form of acute cystitis the writer describes cases in which there is a copious secretion of pus, the origin being from external causes; the urine remains acid throughout. Internal medication is useless, the best treatment being the washing of the bladder with a solution of mercuric chloride from 1-20,000 gradually increased to 1-5000.

There is little or no fever in catarrhal or purulent cystitis, which prevents the drawing of a distinct line of demarcation between the acute and chronic forms. Gonorrhœa is more frequently followed by catarrhal cystitis than by the purulent form. The condition speedily yields to benzoic acid internally.

Discussing the immediate causes of cystitis, the writer states that "catheterization cystitis has been only slightly reduced in spite of most careful sterilization of instruments (Rovsing) and that the normal urethra swarms with the cystitis microbe." Some other factor seems to be required to start a suppurative cystitis than the mere introduction of the pyogenic microbe—such as a slight wound inflicted by the catheter perhaps, or lessened power of resistance to infection on the part of the mucous membrane from retention of urine, or from hyperemia. In gonorrhœal cystitis it may be that the gonococcus prepares the way for the suppuration of which the staphylococci are the actual causes. This theory would

explain why gonorrheal cystitis is of the catarrhal form usually and only rarely suppurative. The writer is inclined to consider all suppurative cystitis as due to the staphylococci, and the gonorrheal variety to be an instance of mixed infection.

A. L. W.

The Treatment of Nephrolithiasis with Glycerine.—By A. HERMAN, M.D.

(*Medical Chronicle*, January, 1900, p. 235).

Herman employed glycerine in 115 cases of nephrolithiasis with good results. In 15 cases concretions were passed and improvement noted in patients' condition; in 29 cases concretions were passed without bringing about any improvement; in 25 cases the patients' condition was improved, but no concretions were passed; in 46 cases glycerine had no effect whatever. Glycerine thus proved efficacious in 60 per cent. of the cases treated.

The anodyne action of glycerine in nephrolithiasis has been confirmed by all authors. Rosenfeld speaks of the relief of the pain as simply astounding. After taking glycerine the following symptoms appeared: Several hours after taking the remedy pain occurred in the kidney region, and when only one kidney was diseased, pain would be found only on the affected side. The pains would assume the character of a kidney colic, and were never violent enough to require the use of a narcotic. The pains passed along the ureters towards the bladder, and would then cease suddenly. These pains have been noticed also in cases where there was no passing calculus. The urine voided after taking the glycerine proved to be free from albumen, sugar and blood; but it contained much pus, especially where pyelitis was present as a complication. Considerable quantities of glycerine were always present; five hours after taking 120 grams of glycerine, an analysis showed 9 per cent. glycerine in the urine.

Herman believes that glycerine facilitates the passage of concretions by lubricating the urinary passages, but he does not believe that it has a solvent chemical action on the stones.

The dose of glycerine used was chosen in accordance with the age and weight of the patient. One of four ounces (by weight) dissolved in an equal amount of water were taken at one dose between two meals and repeated two or three times in an interval of several days. Disagreeable symptoms never followed this method of administration.

The writer lays stress on the fact that the complication of albuminuria is not unfavorably influenced by glycerine, for there is no increase of albumen on the day the remedy is taken, and a case is mentioned where after three doses of glycerine, followed by a passage of gravel, the previous albuminuria disappeared completely.

A. L. W.

The Treatment of Gonorrheal Rheumatism.—By C. H. FRAZIER (*Therapeutic*

Gazette, January, 1900, p. 15).

Frazier adopts König's four varieties: Hydrops articularis, the hydrops articularis with a sero-fibrinous and catarrhal exudate, the empyema and phlegmon of joint. The four varieties are described.

The most serious consideration in the treatment is the relief of pain and preservation of function, the latter being the more important of the two.

In the acute stage rest and immobilization constitute the best treatment. In

addition, the ice-bag, or hot fomentations or the hot-air bath will alleviate pain. After the subsidence of the acute stage, we should stimulate rapid absorption of the fluid in the joint and the infiltrate into the capsule. This is best accomplished by rest in bed, elevation of the limb and firm compression, preferably by a rubber bandage. If there is no improvement after two weeks the joint should be aspirated, especially if there is a tendency to ankylosis.

If the fluid withdrawn is clear no further treatment is necessary; but if it should be otherwise, arthrotomy should be performed and the joint cavity freed of any fibrinous flakes that may be suspended in the fluid or deposited on the membrane or articular cartilages. The joint is then again immobilized and moderate compression applied with a flannel bandage. The use of the limb should be cautiously allowed, rather erring on the side of tardiness than of haste in this regard.

In empyema of the joint, indicative of a mixed infection, there is but one course—immediate arthrotomy, anti-septic irrigation and drainage. These cases are rarely met with.

For the fourth and most serious form—phlegmon of the joint—immobilization in plaster must be resorted to. In this form ankylosis at times is not fibrous but bony. If the knee or hip is involved extension should be applied. Acupuncture relieves the congested tissues. If under immobilization the process does not subside, arthrotomy with anti-septic irrigation is indicated. In all cases massage and the careful use of active and passive motion are of the greatest value in the later stages.

It is doubtful if internal remedies exert any specific effect on the course of the disease. The urethral lesion should also receive simultaneous treatment.

A. L. W.

The Treatment of Epididymitis.—By H. M. CHRISTIAN, M.D. (*Therapeutic Gazette*, 1900, p. 145).

Christian recommends rest in bed and the application of continuous moist heat as the most satisfactory form of treatment. Early in the attack a Swedish leech applied to the cord on the affected side gives great relief. For ambulatory cases, he recommends guaiacol most highly. He used it in 60 walking cases. All were able to keep on their feet during the whole attack with but little discomfort. Dermatitis did not occur in any case. A twenty per cent. guaiacol ointment made with lanolin is applied on lint over the affected testicle and the dressing changed every other day; the whole scrotum was enveloped in absorbent cotton and over this was applied a snugly-fitting laced suspensory bandage.

At the end of about six days, the inflammation and pain subsided and the testicle could be easily handled; then he applied an ointment containing equal parts of ung. hydrarg., ung. belladonna, ichthyol. and lanolin.

In most cases the testicle returned to its normal condition in from two to three weeks in many cases in much less time. In private practice he thinks possibly guaiacol vasogen would be superior to the ointment.

Tuberculous Disease of the Urinary Apparatus.—By J. M. GILE (*Med. News*, 1900, p. 605).

Gile reports four cases of tuberculous disease of the urinary tract, and concludes thus: "The condition is one of considerable frequency, greater, probably,

than the number of cases diagnosticated would indicate. Its course is quite as variable as that of the same disease when affecting other organs, and may prove rapidly fatal or run an indolent course. For certain diagnosis we must depend on the bacteriologist, but even this will not definitely localize the trouble. The hereditary character of the disease appears to be even more definitely marked than in pulmonary tuberculosis. The age incidence, from the record of my own cases, is markedly in young adult life, rather than in the middle age as frequently stated, while the location of the disease is merely a matter of circumstance and follows no fixed rule."

A. L. W.

A New Method of Performing Perineal Prostatectomy.—P. J. FREYER, M.A., M.D., M.Ch. (*Brit. Med. Jour.*, 1900, p. 698).

This operation was described in a paper read before the Medical Society of London on March 12th. The author classifies the various surgical procedures for hypertrophy of the prostate as follows:

I. *Palliative Operations*, where cystitis or other complication exists, rendering catheterism impossible or difficult.

(1.) Suprapubic cystotomy with temporary or permanent drainage through a retained tube.

(2.) Perineal urethrotomy with temporary or permanent drainage.

II. *Operations for the purpose of inducing permanent atrophy or shrinkage of the prostate.*

(1.) Castration.

(2.) Vasectomy.

III. *Radical operations*, for the removal of a part or the whole of the obstructing portion of the gland:

(1.) Division of a median obstruction by the galvano-cautery introduced through the urethra (Bottini) or through a perineal urethrotomy (Wi-hard).

(2.) Removal of median growth through a perineal opening in the urethra by cutting forceps or other instrument.

(3.) Suprapubic prostatectomy (McGill), for enlarged middle lobe, ring of hypertrophied tissue around urethral orifice, or enlargements of lateral lobes projecting into the bladder.

(4.) Perineal prostatectomy (Dittel), removal of wedge-shaped portion from under surface of one or both lobes, through an incision extending from median raphé round the sphincter ani to tip of coccyx, the urethra and bladder being left intact.

(5.) Nicoll's operation, similar to the last, only that a preliminary suprapubic cystotomy is first performed, for the purpose of introducing a finger into the bladder and pushing the prostatic tumor into the perineal wound.

In the operation described by the writer, the perineal incision recommended by Dittel is made, and a preliminary incision in the urethra is substituted for the suprapubic cystotomy of Nicoll.

The writer claims the following advantages:

(1.) The preliminary external urethrotomy permits of the introduction of a finger into the bladder, which, with a finger in the rectum, enables the surgeon to define accurately the size, shape, density and extent of the growth, without the performance of suprapubic cystotomy.

(2.) The finger can be hooked over the enlarged lateral lobe and the latter pushed well into the ischio-rectal wound, thus obviating the deep and dangerous dissection of Dittel.

(3.) With the tumor pushed into the wound the capsule is easily incised and erased and the cutting forceps and scissors easily applied.

(4.) The finger in the bladder warns the surgeon when the cutting instruments are approaching dangerously near that organ, so that the whole growth can be removed except a thin layer for the support of the mucous membrane of the bladder and prostatic urethra without opening the latter, thus avoiding infection of the wound and formation of a permanent fistula.

(5.) The perineal drainage tube inserted into the urethral opening carries off the urine and prevents sepsis of the perineal wound.

The operation is not applicable to cases of enlarged middle lobe projecting into the bladder; nor is it recommended in very fat patients or where the tumor is extremely large, because the finger may not be long enough to hook it round the growth.

A. L. W.

Causes and Treatment of Movable Kidney.—C. MANSELL MOULLIN, M.D.,
F.R.C.S (*Brit. Med. Jour.*, 1900, p. 566).

In a lecture delivered before the Hunterian Society, Moullin discusses the causes and treatment of movable kidney. During life the kidneys normally possess a range of mobility estimated at from 3 to 5 centimetres. This movement is especially evident when the kidney is seen through an incision in the loin. The most satisfactory method of distinguishing between movable kidney and normal kidney with more than the average range of mobility, is the failure of the kidney to reascend on tranquil expiration (coughing or straining is not a fair test) when the patient is standing erect and has driven the kidney down by forced inspiration. If, on the other hand, it retains its normal relation to the diaphragm, so that the movement of one follows that of the other, it is not regarded as unduly movable, even if half the organ can be felt. The perirenal fascia, described by Zuckerkandl and Gerota, forms an investment for the kidney, loosely attached to it by connective tissue and fat, open on the inner side and below. This fascia offers no resistance to movement of the kidney downwards and inwards. The normal movements of the organ take place inside of this fascia. In some cases of movable kidney, the fat, which is found inside of this perirenal fascia, has been found atrophied, but much more often it is abundantly developed. Running through this fat are some strands of fibrous tissue which pass from the fascia to the renal capsule. They are best developed above and opposite the hilum, but there are a few below. In cases of nephroptosis these strands are either torn or unduly stretched. Wolkow and Delitzin believe that they are not strong enough to support the weight of the kidney. If the upper strands are divided, they maintain that the upper segment of the kidney falls forward upon the lower, a condition which Potain has described as "anteversion" of the kidney. This condition sometimes causes severe symptoms because of the pressure it exerts on the neck of the gall-bladder and the bile duct. Newman has shown that neither this fascia nor the fat within it is capable of maintaining the kidney in position when the intra-abdominal pressure is removed. The same may be said of the peritoneum. The kidneys glide behind it and have no difficulty in pushing it before them. The surrounding organs check the kidneys' movements and support them, but the

kidneys are not tied or fastened by ligaments like, for instance, the splenic flexure of the colon.

The viscera enclosed by the peritoneum form one soft elastic mass, pressing against and supporting the kidneys. If any one of the organs constituting this mass changes its position or consistence, the rest—so long as the peritoneal cavity is unopened—compensate for it at once.

The kidneys are maintained in position partly by the pressure in the extra-peritoneal space and partly by the way in which they fit into the lumbar recesses. In many cases of movable kidney there is a definite flattening of the right lumbar region, caused by the slight degree of torsion of the lumbar spine which compensates for the slight rightward convexity of the dorsal spine. This rotation and consequent flattening of the right lumbar recess is an indication of the cause of the kidneys' displacement.

Owing to the process of development, the kidneys instead of occupying a position of greatest safety against injury as in the lower forms of life, have been placed in one from which all security is gone; and the wonder is not that movable kidney occurs, but that it does not occur more often. It is certainly hereditary and common; more often seen in women than in men, and in women who have borne children more often than in those who have not. It is much more common on the right side than on the left.

As to treatment the choice lies between wearing an abdominal belt and nephrorrhaphy. The belt succeeds only in the milder cases, and then it must be combined with massage and exercises calculated to strengthen the abdominal muscles. The belt only braces the viscera together and so steadies the displaced organ, but it cannot press the kidney back into its place, nor retain it there after it has been reduced, if the patient stands upright and takes a deep breath. Pads are useless.

Nephrorrhaphy is recommended for all cases in which there is manifest deformity of the lumbar region, associated with movable kidney, or if there is real pain even if the mobility does not exceed a higher degree than the anteversion of Potain.

A. L. W.

Therapeutic Notes.

Eugallol (Pyrogallol-Mono-acetate) has been employed by GOLDSCHMIDT (*Am. Jour. Med. Scienc.*, CXX., p. 118) in the treatment of a number of cases of inveterate psoriasis. A solution made with acetone was painted daily for several days upon the affected parts, and was followed in from fifteen to thirty minutes by the application of a zinc paste. The black discoloration which it produces is an objection to its use on the face, but this discoloration lasts only a few days and may be partially removed by means of ether. Some of the conclusions based upon results obtained are as follows: Eugallol, used as above described, exerts an extremely rapid and energetic action on psoriatic efflorescences in every stage. In very extensive eruptions this method is too tedious and difficult of application to be employed; but is excellently adapted for isolated inveterate plaques that are resistant to all other treatment. Toxic effects are rarely observed even after the most extended use, or if they occur, are very unimportant. In some cases it produces slight local irritation, which, however, rapidly disappears when its use is suspended.

The Treatment of Ringworm on the Scalp.—JAMIESON writes in the *Edinburgh Medical Journal* for June, 1900, on this subject. He believes that in treatment the following are the rules to be observed: (1) The hair must not only be cut or shaved off, but the entire scalp must be kept bare of hair, by razor or curved surgical scissors, till the cure is complete. In this there can be no compromise. Those in care of the child are apt to evade this injunction, on the ground that to them the disease seemed cured; but the doctor, aided by the microscope, ought alone to be the judge as to when the hair may be allowed to grow. (2) Again, the scalp must be kept rigorously clean. It must be washed twice daily with a fluid superfatted potash soap and warm water, the soap being poured on a piece of wet flannel and moderate friction employed. Such a soap only will keep the surface soft, polished, and adapted for the reception of remedies. The affected areas usually show a pinkish tint, as compared with the healthy, while the diseased hairs do not all grow in the proper direction. The application which has proven most efficacious in his hands is one modified from an old formula of the late Sir William Jenner. It consists of precipitated sulphur, 1 drachm; salicylic acid, beta-naphthol, and ammoniated mercury, each 10 grains; and lanolin, 1 ounce. For lanolin we may perhaps substitute vasogen, an oxidized vaselin, which is credited with enhanced absorptive powers; but his experience of it is yet too small to enable him to speak with confidence. One point of great consequence is that the ointment be rubbed in for ten minutes slowly and carefully twice a day. In this way the epidermis becomes charged with the antiseptics, the sulphur, mercury, and naphthol; while the salicylic acid favors the moulting of the diseased hairs while increasing the porosity of the skin. In compounding we may replace the naphthol by thymol, or we may use in exchange a salve of oleate of copper in the proportion of 25 to 50 grains to the ounce. Whatever we use the principle is the same—the steady saturation of the permeable epidermis with substances hostile to the fungus. In this way, and in this way only, in the present state of our knowledge, by patient insistence, we can cure the most refractory instances of ringworm of the scalp.—(*Therapeutic Gazette*.)

Radical Treatment for Curvature of the Penis.—FULLER (*Annals of Surgery*, June, 1900) states that anything which robs the corpus spongiosum of its natural elasticity, so that it fails to lengthen, as do the corpora cavernosa during erection, will cause curvature, and the amount of the curvature will correspond to the loss in the elasticity. Acute inflammations involving the peri-urethral tissues temporarily produce this deformity, and any inflammation or traumatism which leaves a permanent cicatrix in the corpus spongiosum will serve to render it lasting. The danger of causing chronic curvature is a chief objection to internal urethrotomy. Most curvatures are not sufficient to act as a bar to sexual intercourse, and as many of them slowly tend to improve or to become tolerable, nothing in the way of radical treatment is usually demanded or advisable.

The author reports one case in which the curvature was so great as to prevent sexual intercourse. It followed an internal urethrotomy performed for the relief of a stricture of the anterior urethra. The operation consisted in opening the perineum from just above the rectum to the scrotum. The urethra was then cut across very obliquely in the bulbous region. The penile end, in order to facilitate its retraction, was dissected free from the surrounding tissues for about three-quarters of an inch, after which the penis was pulled up and bent back over the pubes. In that position of the penis a maximum amount of separation of the cut urethral ends occurred. Then, while maintaining the penis in that position, the penile end of the urethral roof was carefully stitched with fine catgut to its surrounding tissues, while a longitudinal half-inch cut was made along its floor. The urethral roof of the posterior end required no stitching, as it had not been dissected free from its surrounding tissues. This done, a perineal vesical drainage-tube was inserted, after which the author's usual urethral tube was adjusted and the perineal incision carefully closed by suture. The penis was left bent back over the pubes, and secured in that position by transverse strips of plaster. The wound healed well, and the operation was a distinct success.

The young man, now nearly two years afterward, has a good free stream on urination, and a penis which is nearly straight during erection. The sexual act can be accomplished without any difficulty, and his bar to matrimony is consequently removed.—(*Therapeutic Gazette*.)

Therapeutic Reports

This department has been opened for a free discussion of the merits of preparations offered for the use of the profession.

THE DISEASES OF THE BLOOD IN THEIR RELATION TO SURGERY, AND THEIR TREATMENT.

BY GEORGE G. VAN SCHACK, M.D.,
Attending Surgeon to the French Hospital and the
St. Vincent de Paul Orphan Asylum.

In two cases of facial erysipelas in girls, seen at St. Vincent de Paul Asylum, and in a number of instances of cervical adenitis, the blood count and estimation of hemoglobin were rapidly improved under the use of peptomangan. In rachitic children it has given me much satisfaction. During the course of treatment of a boy upon whom I did a double osteotomy for bow legs, the blood count increased from 2,844,000 to 3,842,000 in four weeks during which this preparation was given before the operation. The following case is of some interest:

B. L., aged eight, an inmate of the asylum, was taken on January 26, 1900, with what appeared to be a severe attack of acute rheumatism, the right shoulder and the head of the left tibia being red and swollen. Salicylates showed no improvement on the next day, and acute osteomyelitis was diagnosed. The child's mother could not then be found, in order to consent to an operation, and on the 28th, as the tissues over the left upper half of the tibia were red and exquisitely painful, with slight fluctuation, one small incision was made down to the bone, giving issue to some sanious pus, with much bleeding. I did not feel justified in proceeding further without the mother's consent. Pressure stopped the bleeding, which, however, recurred furiously during the night. No vessel could be found to be at fault, and strong pressure, with an elevated position of the limb, had to be relied on. It was only then remembered that the child had two years previously nearly bled to death after the extraction of a tooth. It was evident that the child had hemophilia. The state of affairs, with repeated refusals on the part of the mother, prevented any further operative interference to reach the medullary canal. The child

was placed on the use of peptomangan, which, notwithstanding the septic process still going on, raised the estimation of hemoglobin from thirty-two per cent. the day after the hemorrhage to forty-five per cent. the next week. The wound has since continued to suppurate, showing continuous slight rises of temperature, and the medullary cavity has opened spontaneously and is draining through the wound. The child seems to do much better than might have been expected during the course of such a prolonged sepsis, and continues the use of peptomangan.—(Abstract from *N. Y. Med. Journal*, June 21, 1900.)

PRELIMINARY NOTES ON ELECTROZONE.

BY SOL. N. ROSENBAUM, M.D., NEW YORK.

Among the many antiseptics and germicides which are constantly being placed before the medical profession, Electrozone is daily becoming more appreciated, and its virtues receiving more recognition. It is sea water treated by the Woolf system of electrolysis. The stable compounds of the water are transformed into new and unstable ones, united with extra oxygen, which is liberated during the process, and enters into the new combinations.

These newly formed compounds are held in solution till they come in the presence of organic matter, such as pus, bacteria, etc. Then chlorine is set free, which unites with the hydrogen present, and nascent oxygen is liberated. The latter destroys all forms of organisms, at least on the surface.

My preliminary investigations would lead me to believe that we have in this product a non-toxic and potent germicide; and from the reports already made by bacteriologists of high standing, it may be considered a reliable antiseptic. The fact that Electrozone is a non-toxic and non-coagulant is greatly in its favor. Furthermore, the fact that no foreign or toxic substances would be taken into the

system, it, by absorption, Electrozone should be introduced, removes an objection which has been raised with reason to many of its predecessors. Some of my observations have been quite remarkable, but I have not yet gone far enough with my investigations to make a full report. In a subsequent communication I will do so, giving the details of work actually done. And, if in practice, the result should fully verify the theory of this germicide and antiseptic, the discovery will be of great benefit to the profession.

The usefulness of Electrozone in a surgical clinic lies chiefly, as is indicated by its properties noted above, in conditions caused or complicated by pyogenic and putrefactive organisms. It is efficacious in cleansing infected wound surfaces and especially those of the surgical *bête noire*, ulcer of the leg. It should be applied in wet dressing, surrounding inflammation subsiding with the removal of its cause. It may be employed in cleansing pus cavities, especially when they are very large, *e.g.*, pyothorax, and there is danger from toxic properties of the antiseptic used. It is also serviceable in superficial inflammations of the skin such as balanitis and lymphangitis.

The department of Therapeutic Reports is in receipt of a communication regarding the efficacy of Electrozone in cases of cutaneous disease. As Dr. Rosenbaum has found, it is indicated in acute inflammations, especially those situated superficially. The patients were directed to bathe the parts frequently as a rule but sometimes, the preparation was used as a wet dressing and covered with rubber tissue. It has no effect on deep-seated infections such as ringworm of the scalp and beard, but acts well in impetigo, pustular miliaria, lymphangitis and progenital herpes which had become infected. It served an admirable purpose in cleansing surfaces of all sorts; it is unirritating enough to be applied to intertrigo in a baby, acute crusted eczema of leg and scalp as well as the surfaces of old ulcers and reeking, macerated mucous patches between the toes. Eczema of the leg must be cleansed all but invariably and if electrozone had nothing more to recommend it in the practice of dermatology, this would be sufficient to make its place. In intertrigo it was employed as a forerunner of astringent washes; in impetigo, lymphangitis and miliaria rubra it was used alone. The number of cases and the average duration of treatment where electrozone was the only remedy are as follows:

Impetigo Contagiosa....	5 cases	10 days
Miliaria Rubra	5 cases	14 days
Lymphangitis	2 cases	3 days
Progenital Herpes.....	1 case	5 days
Eczema, leg and scalp..	8 cases	
(Cleansing purposes only)		
Intertriginous eczema..	2 cases	

The long duration of prickly heat must be laid to the tropical weather of the past summer. In the case of infected herpes when the surface became clean, dusting powders were used to complete the cure. In eczema after crusts and pustulation disappeared, appropriate medication was adopted.

SYPHILITIC ULCERATION OF THE UVULA.

Although syphilitic ulcerations of this class are not of sufficient rarity to occasion much interest, I nevertheless believe the following case is not without points of interest.

Ann H.—, aged forty, a laundress, came under my care September 26th. She complained of great distress in her throat; said that it hurt her in swallowing, and that she had a constant tickling. She said that this condition had existed for about five weeks. I found, on examination, a small ulcer at the base of the uvula, about the size of a three-cent piece in diameter, deep, with sharply defined edges. The ulcer was covered with a grayish secretion; the glands of the neck and groin were much enlarged. This decided me in my diagnosis. She said that two months previous to my seeing her, she had been treated by a physician for tonsillitis, and that for two weeks he had swabbed her throat every other day. But in spite of this her condition did not seem to improve. She consulted another physician, who, much to her surprise, told her that although she had had tonsillitis, it was now well, and that she was suffering at present from syphilitic sore throat. No history of primary lesion could be gotten. I therefore had to content myself with the supposition that my patient had been inoculated primarily in the throat, and that this ulcer was the well-advanced primary lesion. She was put on iodide of potassium *t.i.d.*, and the ulcer cleansed with bovine and hydrozone followed by a spraying of bovine pure. This was repeated four times in twenty-four hours. Internally she was also given a wineglassful of bovine in milk to build up her general condition, every three hours. At the end of ten days the patient was discharged cured, her general condition being splendid.

T. J. B.

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Original Communications.

A CYSTOSCOPIC PROSTATIC INCISOR FOR THE BOT- TINI OPERATION.¹

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and

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Berlin, Germany.

THE necessity of performing the Bottini operation, for prostatic hypertrophy, under the direction of the eye, is no longer so pressing as formerly, since it has become more and more the custom to inform oneself, as far as possible, of the condition of the bladder and prostate, *before* the operation, by cystoscopic examination. At the same time, the wish to operate directly under the control of the eye must still be a strong one, and has been voiced by many.

One must, however, bear distinctly in mind, from the very first, how much one might be able to see of a Bottini operation performed under the most favorable circumstances possible. These conditions would be present if one were to widely open the bladder by means of the *sectio alta*, and thus bring the eye to bear *directly* upon that portion (the beak) of the instrument which lies within the bladder. One could then note the point at which one applies the beak, and correspondingly, the blade, and could follow the cut two to three, at most four, millimeters, or until it had fully entered into the tissues of the

¹ Demonstrated before the New York County Medical Society, September 24, 1900; 13th International Medical Congress, Genito-Urinary Section, August 7, 1900; 29th Congress of the German Surgical Society, April 19, 1900.

prostate. At this point the possibility of seeing the blade would cease: its further progress, by far the greater portion of the cut, *it would be impossible to follow*. This much one might be able to see under the most favorable conditions—with the interior of the bladder exposed. More than this one could certainly not expect to see within the unopened bladder.

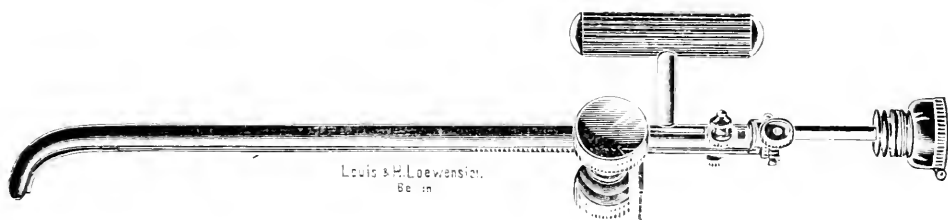
At the same time, it is, beyond doubt, an advantage to be able, with the aid of vision, to convince oneself that the beak of the instrument, and with it the blade, is really brought to bear upon that point through which one intends to cut. That this does not always occur in the typical Bottini operation, especially when a second, or third, incision is to be made, one of us (A. Freudenberg) demonstrated by the presentation of a specimen of a case¹ in which the second and third cuts, instead of starting from the urethral canal, began at the bottom of the furrow which had resulted from the first cut. The perfect result of the operation was, in this case, in no way impaired thereby, but on the contrary, seemed to be especially favorably affected. Nevertheless, one must admit that such a deviation from the intended course, even though unimportant, is not desirable. On the other hand, one might, as a result of this case, be led to think of perfections in directing the cuts, such as would be impossible without the control of the eye.

The first who attempted, by the construction of an instrument, to solve this problem, was Wossidlo, whose instrument was described and illustrated in *Nitze's Centralblatt*. One of us (A. Freudenberg), on the occasion of its demonstration before the Berlin Medical Society, while fully admitting the originality of its construction, mentioned what he considered to be its deficiencies. The most important of these was that it does not take into account the need of bringing the beak of the instrument to bear *directly* upon the prostate. It was not without reason that Bottini emphasized the importance of firmly pressing the beak against the prostate, and no doubt all of those who possess a greater experience in the performance of this operation, will fully agree with his views upon this point. With Wossidlo's instrument, the beak remains free within the bladder-cavity during the operation: a close approximation of the beak to the prostate is impossible, because the prism and incandescent lamp lie on the near side of the beak. As a consequence, first, the blade is more liable to bend; second, all con-

¹ Berlin Medical Society, January 31, 1900; see *Berliner Klinische Wochenschrift*, 1900, No. 3, p. 173; 29th Congress of the German Surgical Society, April 19, 1900; see *Archiv für Klinische Chirurgie*, Vol. 61, part iv, p. 950, and Transactions of the German Surgical Society, 29th Congress.

trol over the real length and depth of the incision must cease, since one can not be certain whether the blade has really entered the prostate to a distance corresponding to its own height, and to the extent to which the wheel has been turned, or whether the beak has not been forced back into the bladder, or the shaft has not been forced over toward the opposite wall of the urethra: third, if only moderate hemorrhage should occur, it might happen that one would be unable to control, either by sight or touch, the course of the operation, as was more explicitly explained in the above-quoted article.

A.



We have constructed an instrument which, we hope, may fulfil all the requirements for an operation under the control of the eye, without adding errors to the technic. The instrument (see illustrations), which was constructed, according to our ideas, by the firm Louis &

B.



H. Loewenstein of Berlin, follows the principle of the Nitze operation cystoscope, and *permits the pressing of the beak directly against the prostate*, as is the case with the typical instrument. The cystoscope, which is straight, passes through the tube on the *posterior* surface of the shaft, in which it may be easily turned, or moved forward or back; the conducting rod, which bears the current to the platino-iridium blade, is placed in a gutter upon the anterior surface. In this gutter it, with the attached blade, moves, motion being imparted to it by means of a toothed wheel playing upon a toothed plate at its outer end, this

wheel again being caused to revolve by two larger wheels at the extremities of its shaft. These two wheels are graduated upon their periphery, so that one may read upon them the length of the cut. The closed instrument (see Fig. A.) is inserted into the bladder, the cystoscope thus acting as an obturator. As soon as the beak has fully entered the bladder the cystoscope is pushed further in, the beak is turned to one side, so as to leave the field of vision entirely clear, and one is then able to examine the bladder and the prostate. Next that point of the prostate at which it seems desirable to incise is exactly located with the cystoscope, the beak is turned so as to bring it exactly upon this point, in doing which one is enabled to see that the beak located with the cystoscope; the beak is turned so as to bring it exactly and shaft are fixed in this position by a small screw which tightens a muff affixed to the outer end of the shaft, and one is now enabled, by means of the graduated wheels to make an incision of the desired extent. The length of the incision possible with this instrument is slightly more than $4\frac{3}{4}$ cm.

Should there be any decided hemorrhage during or after the operation, so that it seems desirable to irrigate the bladder before making the next incision, or should the lamp burn out during the operation, it is very easy to withdraw the cystoscope, and to empty, irrigate, refill¹ the bladder, and reinsert the cystoscope through the tube in the shaft, all of this being possible without the necessity of removing the entire instrument from the bladder.

Of course the instrument is provided with the usual cooling apparatus. With the exception of the cystoscope itself, the entire instrument may be sterilized by boiling: the cystoscope, which has a perfectly straight, smooth, cylindrical form, without any depressions, may be sterilized by means of fluid media, or by formaldehyde vapor. Its size is—since it is of oval contour, in transverse section—in the long diameter 30, in the short 22, an average of 26 Charrière. Thus it possesses a greater caliber than the old Bottini, as well as the Freudenberg incisor, which are 21-22 Charrière; but this is, because of the addition of the optical apparatus, technically unavoidable, if one is not to obtain too small a field of vision.

We have laid no value upon seeing the blade in the bladder, but only the beak of the instrument. If we know where the beak lies we also know, *co ipso*, where the blade lies, since the beak is the sheath of the blade. Furthermore, as before stated, one can no longer see

¹ For this procedure it is advisable to affix one of the small rubber syringe tips to the syringe, as is done in employing the Janet method of urethral irrigation

the blade as soon as it has entered two to three, or, at most, four millimeters into the prostatic tissue. However, if value be laid upon seeing the blade itself, then this may easily be attained by fenestrating the beak. We have not done this because we feared that blood might pass through this opening and, by settling upon the prism, render vision difficult.

In order to allow of holding the instrument more firmly, we affixed, to the first model, two rings, which joined the shaft at an angle of about 45° . The second and third fingers were passed through these rings, the tips pressing against the small spouts of the cooling apparatus, while the ball of the thumb found a point of support upon the ocular end of the cystoscope. In the newest model we have replaced these by a corrugated, cylindrical handle, affixed to and parallel to the shaft, and resembling the handle of the old Freudenberg incisor. This enables one to steady the instrument with the whole hand, as in the old instrument of Freudenberg, and we believe that it will make it possible to fix the whole instrument more securely than with the former plan. Whether it will be possible to operate with the new instrument in the bladder distended with air, or whether it will be necessary to return to distention with fluid—in this case operating with the blade at white heat—will require greater experience to decide.

Up to the present (date of writing) the instrument has been employed in the following two cases:

CASE I.—H. B., tailor, 69 years. Bladder-trouble since about four years, which has increased in severity during the past four to five months. During the past four to five weeks the urine has been mixed with blood at each micturition. Now urinates every two hours during the day, with pain in the urethra, and once to thrice during the night. During the last three months the patient has become decidedly emaciated; complains of marked thirst and loss of appetite.

At the first examination (March 18, 1900) the upper margin of the bladder is to be felt close under the umbilicus. Prostate, per rectum, about the size of a small lemon, of medium consistency, smooth, projecting rather markedly into the rectum. Urine light, rosy-red color, moderately turbid. Albumin varies from 0.5 to 1.6 per thousand.

Upon regular catheterism once, later twice daily, combined with bladder-irrigations, during the next five weeks, as also the passage of Benique sounds up to No. 28, French scale, and the internal use of salol and urotropin, the residual urine varies in amount from 325 to 655 c.c., the average for ten days being:

March 19th to March 28th, 573.4 c.c.

March 29th to April 7th, 466.0 c.c.

April 8th to April 17th, 524.5 c.c.

Upon catheterism the urine flows off through the catheter apparently without any projection from the bladder; at the last, strong pressure must be employed above the symphysis pubis, in order to completely empty the bladder; marked atony.

April 3d; cystoscopy: Mucous membrane of the entire bladder-wall markedly reddened, and at points covered with white pus-shreds. Very pronounced columnar bladder, with strongly-marked depressions between the muscle-bundles. Marked, barrier-like enlargement of the prostate to the rear. Toward the right, in front, rather marked prominence: to the left only slight. Toward the front, a broad incision, with irregular margins.

April 24th; operation (A. Freudenberg): with the cystoscopic incisor, under local anesthesia (eucain, antipyrin, aa 2.0, aquæ dest. ad 50.0), in bladder filled with 250.0 c.c. of boracic-acid solution. Very little pain. Two cuts; one toward the back, 3.5 cm., one toward the front and right, 2.5 cm. in length. Directly after the operation the patient is able to discharge about 8 c.c. of the injected fluid. Moderate hemorrhage. Catheter *à demeure*.

Subsequent history: On the second day following the operation (26th of April) the temperature rose to 38.° C., but quickly fell; the patient complained of chilliness and later of heat, but had no real chill. On the following day the temperature was 37.6° C.: after that did not exceed 37.4° C. Twenty-four hours after the operation the urine was macroscopically free of blood. Catheter *à demeure* removed three days after the operation (27th inst.): *patient at once able to discharge the injected boric acid solution*. Catheter unnecessary. Frequency of urination in the next days was ten, nine, seven, six, and five times in twenty-four hours.

Measurements of residual urine: April 2d, 310 c.c.; 3d, 197 c.c.; 4th, 98 c.c.; 5th, 55 c.c.; 7th, 41 c.c.; 9th, 57 c.c.; 11th, 50 c.c.; 14th, 40 c.c.; 17th, 28 c.c.; 21st, 21 c.c.; 26th, 24 c.c.; 31st, 29 c.c.; June 13th, 33 c.c.; 20th, 33 c.c.; 29th, 41 c.c.; July 2d, 24 c.c.; 7th, 19 c.c.; 13th, 23 c.c.; 16th, 17 c.c.; 20th, 17 c.c.

Result: Urinates three to five, seldom six, times in twenty-four hours. Absolutely no abnormal symptoms. Urine still slightly turbid. Has gained six pounds in weight in twelve weeks.

We were able, in this case, to satisfy ourselves by means of the cystoscope attached, before the first cut, that the beak was, in reality, applied to the desired point of the prostate; also to recognize, after the completion of the incision, this as a blackish cut in the tissues of

the prostate, at the point where we had intended it to be made. With the second incision this was not so easily possible, because the contents of the bladder had become turbid through admixture with blood. Had we, in this case, removed the cystoscope and irrigated and refilled the bladder, as outlined in the description of the instrument, we should have been able to control the second cut also, since the hemorrhage was of moderate degree. We omitted to do this, in this case, and made the second cut without the control of vision. In the second case, however, this was done and, as a result, all of the different cuts were plainly visible.

The history of the second case is as follows:

CASE II.—K., pensioner. April 30, 1900. Has had difficulty in emptying the bladder for some time past. Repeated attacks of cystitis. At present, the urine is still slightly turbid. Residual urine 125 c.c. Cystoscopy reveals moderate degree of enlargement of the posterior and anterior lobes of the prostate.

May 2d: Operation (Drs. Ernst Frank and F. Bierhoff) with the cystoscopic incisor. The bladder having been emptied, irrigated, and filled, the instrument is inserted and the following cuts made: Two in the posterior lobe, one to the right, one to the left, each at an angle of 45° from the vertical. These were each 1.75 cm. in length. Two others into the anterior lobe, at the same angle and in the same manner, were 1.5 cm. each in length. The patient complained of no pain. There was hardly any hemorrhage, and we were enabled to determine directly at which points to cut, to place the beak at the desired points, and to control, after the completion of the incisions, that these had been properly made; all of this *without* having to remove the cystoscope. To conclude, the cystoscope was easily removed, the moderately-turbid fluid allowed to flow off, the bladder irrigated and refilled with 135 c.c. of fluid, and all four of the cuts again examined. These were plainly visible, and we were able to determine that they were of the proper depth.

We do not believe that the new instrument can replace the old, or the old typical operation, in all cases. Aside from the fact that the increased caliber will render it more difficult to introduce in some cases, so there will also be cases in which it would be advisable not to attempt its use. These are: first, those cases in which the distensibility of the bladder is slight—since cystoscopy requires a certain degree of distensibility of the bladder; furthermore, those cases which show, even upon the introduction of ordinary metallic catheters, a tendency to decide bleeding; finally, perhaps, those cases of extremely large prostate, where the greatest possible length of cut may not suffice, and

those especially hard prostates in which the platino-iridium blade of the new instrument, which is necessarily somewhat weaker than in the old, may possibly not come up to the required strength. Exactly to what extent the new instrument is applicable, only a more extended experience can prove.

LEUCOPATHIA UNGUIUM*.

BY M. L. HEIDINGSFELD, M.D.,

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Dermatology, Medical College of Ohio.

ALTHOUGH the nails are frequently involved in pathological changes, and the history of their disease is almost as old as that of general medicine, their microscopical pathology forms one of the most incomplete chapters in dermatology. When we consider the apathy which patients manifest for ordinary nail affections, the lack of material available for examination and the technical difficulties that are encountered, we can readily understand why investigation in this direction has been sadly neglected. There is great dearth of material, because extirpation of the nail *in vivo* is, in the majority of cases, infeasible, and post-mortem material is rarely available, because the dead cannot be mutilated and, *critus lethalis* seldom occurs at a time favorable for the examination. The peculiar hardness of nail substance offers technical difficulties so serious in nature as to almost preclude the preparation of sections sufficiently thin for a satisfactory microscopical examination. No better illustration of the apathy which patients manifest for nail affections can be afforded than the record of University Polyclinics of Prussia; out of a total of 35,853 cases of cutaneous disease, only 48 were nail affections.

The presence of white spots or streaks in the nail has been observed by both laity and profession from time immemorial¹. Soothsayers have attributed considerable importance to their presence, and they have been variously designated as "gift" or "fortune" spots, "lies" or mendacia, "flowers" or flores unguium, leucopathia unguium or leuconychia. They are characterized by chalky-white deposits, situated in the nail-substance, making their appearance near the lunulæ, and gradually passing forward to the free edge, with the growth of the nail.

* Read before the section of Cutaneous Medicine and Surgery, American Medical Association at Atlantic City, June 5, 1900. Originally illustrated with twenty photographs and microphotographs.

Unna² makes three divisions of this affection: (1) leuconychia punctata, where the predominating lesions are in the form of spots; (2) leuconychia striata, where they are in the form of bands or striæ; and (3) leuconychia totalis, where they involve the nail in its entirety. He states that the punctate forms are caused, for the most part, by slight injuries to the nails, most frequently by the use of sharp instruments in pushing back the posterior fold. He designates all forms due to trauma or artificial causes as leucopathia unguium, in contradistinction

FIG. 1.



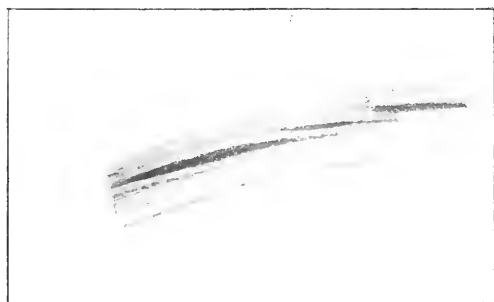
Leuconychia striata. Nails one-half normal after disuse of the cuticle-knife for forty days.

to leuconychia, which term he reserves for spontaneous or idiopathic forms. Max Joseph³, on the other hand, limits the use of the term leuconychia, to the type totalis, only five cases of which have thus far been reported. Both classifications are faulty; trauma may induce leuconychia striata and totalis as well as punctata, and a border-line between leuconychia totalis and striata cannot be sharply drawn (see photograph 1).

Leuconychia striata is not as rare a condition as has been commonly supposed. Julius Heller⁴ in his recent work on "Diseases of

the Nails," states that only two cases have thus far been reported, and that leuconychia punctata alone is of frequent occurrence. Personal experience leads us to believe that leuconychia striata also occurs frequently; during the past fourteen months it has been our privilege to observe seven well-marked cases, while the condition to a slighter degree has been observed in almost twice the number. Nos. 1, 2, 3, and 4 are photographs taken from four of the seven well-defined cases; six were in young ladies, and all occurred in individuals between sixteen and thirty years of age, who assiduously manicured their nails. The nails were regular, well formed, surface smooth and glistening, and nail fold and bed presented a normal appearance. Pain or ab-

FIG. 2



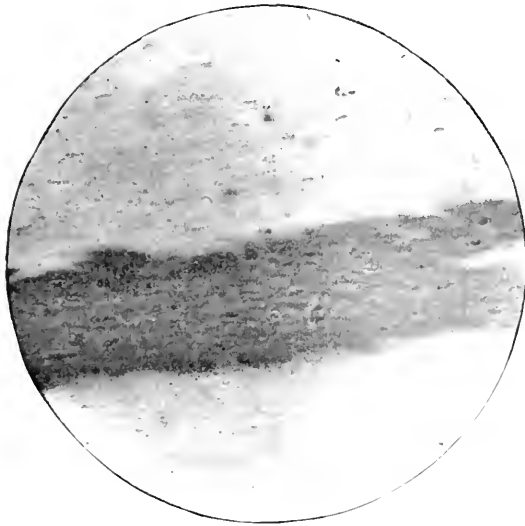
Microphotograph 4. *Leuconychia striata*. Rounded free edge of nail. Convex dorsal surface. Concave under surface. Bands or striae are imbricated, occupy a middle third of nail, run downward and forward and are broadest at their centers. Each corresponds to a plane of cells, which at the time that it was evolved from the matrix, was involved in some pathological process. Winkel, objective No. 1, ocular No. 1.

normal sensation was not noticed in a single instance, and the sole disturbing element was the physical disfigurement.

The frequency with which the condition was observed led us to suspect some special cause to account for the disparity with former records. In all well-marked cases a cuticle-knife had been used by the patient to trim away and keep back the nail fold. To the misuse of this new and somewhat "American" instrument the condition has been largely attributed. Great color was given to this hypothesis by the common observation that the nails of the right hand showed a greater degree of involvement, which corresponded to the diminished dexterity with which the left handled the instrument.

In November, 1899, Miss F., nineteen years of age, with a history that for the past nine months the finger-nails of both hands had turned chalky white, presented herself. Examination revealed that nails of both hands, particularly the right, were traversed for two-thirds or three fourths of their breadth by chalky-white bands, arranged parallel to each other, and involving the nail from the lunula to its free edge. The chalky-white bands were separated by a very narrow margin of normal nail substance. In form, size, smoothness, hardness, appear-

FIG. 3.



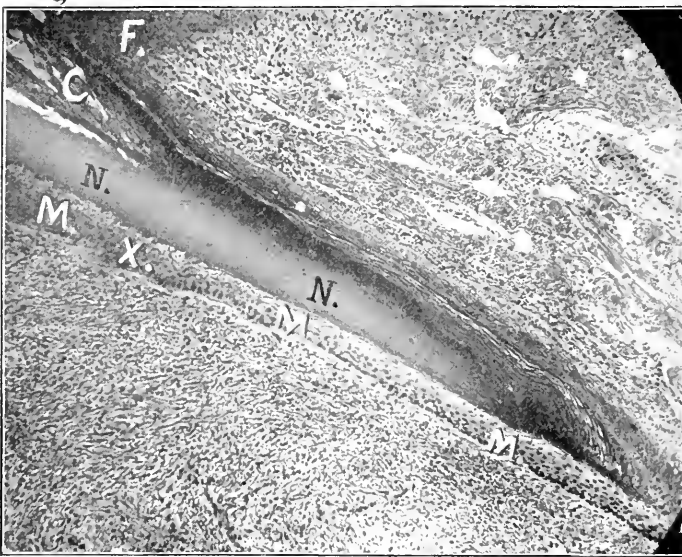
Band or stria under oil immersion. Consists of cells which retain their nuclei, stain deeply, and preserve their original form. Due to failure to undergo physiological keratinization, not to infiltration of air. Winkel, objective $\frac{1}{2}$, ocular No. 2.

ance of the folds, bed, etc., the nails were normal. Patient had manicured her nails for a period of two years, but had never noted the slightest disturbance until nine months previous to this time, which, as she recalled, was shortly after using the cuticle-knife. A sister affected to a slighter degree, had also used the cuticle-knife a corresponding length of time, and the duration of the condition in both was about the same. Unna² states that in the majority of cases of leuconychia punctata the patients inflict the condition on themselves by numerous slight injuries to the matrix in pushing back the nail fold by means of a sharp instrument. Patient's condition was attributed to the unskilful

use of the cuticle-knife, and our therapeutic measures consisted solely in instructing her to dispense with its use.

Patient presented herself for the second time forty days later, and the nails, for almost one-half of their distance from the lunula to the center of the nail, were normal in appearance and free from leuconychia in any form. Fig. No. 1 shows the appearance of the nails at this time. Three months from the time patient first presented herself, all finger-nails were normal and free from leuconychia. The history in the

FIG. 4.



Histological structure of Nail N N, Matrix M M M, Nail fold F, and Cuticle C.

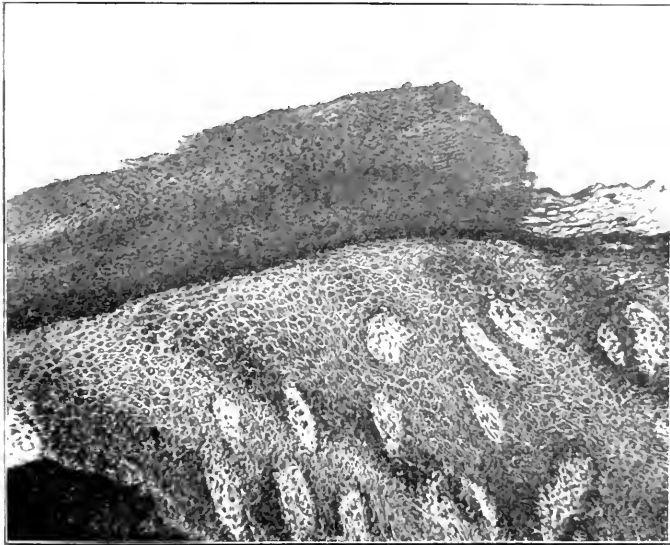
remaining six cases, though they were less extensive in character, was similar; in each case the disuse of the cuticle knife was followed by equally prompt results.

No doubt, agencies other than trauma may cause leuconychia; it has been well established that the condition may be induced by anemia (Joseph's³ case of leuconychia totalis), multiple neuritis (Bielschowsky⁶), typhoid, measles, and other febrile diseases, associated with general malnutrition. The striate and punctate forms indicate that the cause is intermittent in character, each point or stria corresponding to a lesion of definite duration. Leuconychia totalis, on the other hand, denotes a constant cause, or, if intermittent, the intervals are of such

short duration that little time is afforded for the formation of normal nail substance.

There are numerous, well-authenticated instances where nervous influence affects the growth and appearance of the nails (Collineau and Thibierge,⁷ Leyden, Bielschowsky⁶, etc). Longitudinal ridges frequently show themselves after periods requiring severe and prolonged mental activity. It is, therefore, not unlikely that leuconychia results occasionally from purely nervous causes.

FIG. 5.



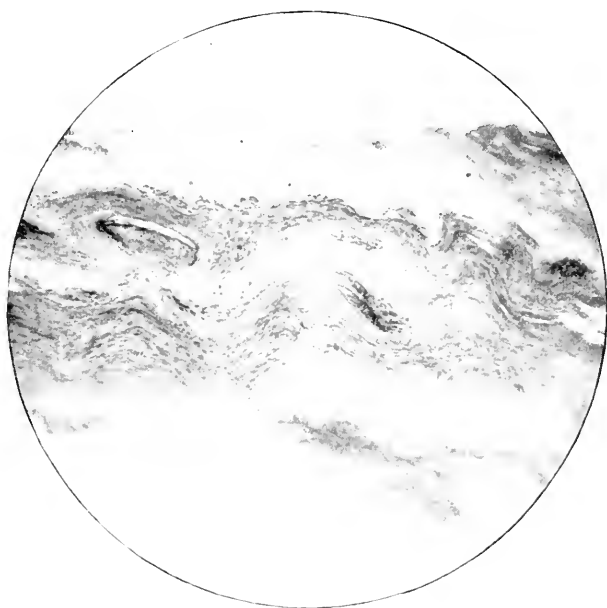
Rete Malpighii cells failing to undergo normal physiological keratinization in *naevus linearis*, analogue of the condition in leuconychia. Winkel objective, No. 3, ocular No. 4.

Febrile diseases, associated with malnutrition, typhoid, measles, scarlatina, typhus, etc., frequently affect the nails and induce a change closely resembling leuconychia. In most instances there are points of material difference. The surface of the nail instead of being smooth and even is crossed by a deep transverse furrow, grayish in color (Vogel⁹), which is separated from the anterior normal portion by a ridge. The anterior border is deep and sharply defined, and marks the onset of the febrile disturbance. The posterior border is shallow and fades gradually into the posterior portion of the normal nail substance, and marks the period of convalescence. The distance of the

furrow from the lunula measures the time that has elapsed since convalescence has been established, and is a point of medico-legal value. The analogue of this condition occurs on the hoofs of animals after severe illness, and the horns of cows show a similar change after each parturition.

Authorities are almost universal in their opinions that the pathological change in leuconychia is due to an infiltration of air as first

FIG. 6.



Onycho-mycosis, showing thickening, dehiscence, irregular structure and imperfect structure keratinization. Pathological change in the nail is similar to that of leuconychia (compare with Fig. 2). Winkel, objective, No. 1, ocular No. 1.

established by Morrison⁵, Bielschowsky⁶, and Unna¹⁰. This opinion is shared by Max Joseph¹¹, Norman Walker¹², Columbini¹³, Jackson¹⁴, Hardaway¹⁵, Duhring¹⁶, and numerous others. Some writers express a great deal of doubt concerning these observations, but all, as far as we have been able to determine, fail to offer a rational explanation on a different hypothesis. Skepticism regarding a rational physiological basis of the air theory induced a histological study of a few cases.

The nail trimmings were embedded in celloidin, sectioned, and stained after ordinary methods (cosin, hematoxylin, picric-acid hema-

toxylin, and Van Gieson). A few were stained after the special method of Echeverria¹⁶ (eosin, gentian-analin, iodine-picroanalin) to show cell-contour.

The sections were sagittal, and were made from the free edge posteriorly, in a vertical direction. Under low-power microphotograph (No. 4, Fig. No. 2) we see the rounded edge of the free border, the convex dorsal surface, the concave under surface, and the middle third of the section occupied by a series of imbricated bands running slightly downward and forward, and darker in color than the surrounding nail-substance. Each of these bands is a stria in leuconychia striata, and consists of a plane of nail cells which at the time they were evolved from the matrix failed to undergo physiological keratinization, and have become so pathologically changed from trauma or other causes that they absorb stain with greater avidity than normal nail-substance. Under oil immersion, microphotograph (No. 5, Fig. No. 3) the cellular character of the stria is distinctly seen, and the resemblance to matrix cells undergoing transitional change is easily noted. It is clearly evident that an infiltration of air does not enter into the pathological process.

A better conception of the pathological changes will be afforded by a comparative histological study of the normal nail. Microphotograph (Nos. 6 and 7) shows under intermediate power the nail with its cuticle, nail fold, hyponychium, and matrix. Microphotograph No. 8, Fig. 4, is the same as No. 7 more strongly magnified, and shows the relatively large area of matrix (*M.M.M.*) from which the nail (*N.N.*) is formed. The trauma from the cuticle-knife would be directed chiefly beneath the nail-fold (*F.*) at a point (*X.*) corresponding almost to the middle third of the matrix. The area nearest to the point of the knife suffers the greatest degree of disturbance, and for these reasons the stria occupy the middle third of the nail and are broadest at their centers (see Fig. 2, microphotograph No. 4). The anterior matrix cells form the lowest strata of the nail-substance, the posterior ones the upper, and for this reason the striae run downward and forward (Fig. No. 2, microphotograph No. 4). In Morrison's¹⁰ case, the middle third was also involved; in Unna's², where the upper and lower third were involved, the pathological change necessarily affected the posterior and anterior matrix cells respectively.

The transformation of matrix-cells into nail-substance is shown under oil-immersion by microphotograph No. 9, and their resemblance to cells of the striae indicate that leuconychia, whatever be the nature of its cause, is a process of imperfect keratinization. We have analogies of this, where the rete Malpighi fails to undergo normal physiological

keratinization in various forms of cutaneous disease. A striking example is afforded by microphotographs Nos. 10, 11, and 12, taken from a case of *naevus linearis* (Fig. No. 5, photographs No. 13 and 14). Unna¹⁰ and others regard leuconychia as an analogue of *pili annulati* or ringed hair, and believe both processes to be due to infiltration of air. The analogy is not clear, and moreover the change in *pili annulati* is pigmentary, as demonstrated by microphotograph No. 15. The theory of air infiltration has also been employed to explain graying of hair, but here also a rational physiological basis is wanting. We are led to believe that the change is due to a disappearance of the pigment from the medullary and cortical areas (microphotograph No. 16).

The failure of the matrix cells to undergo physiological keratinization is not limited to leuconychia. We have the same condition present in many other forms of disease of the nail. An interesting example is shown by micro-photograph No. 17, Fig. 6, from a case of *onychomycosis* (photographs Nos. 18, 19, and 20). The opacity of the nail in these cases is probably not due to the presence of the fungus in the nail-substance, as Duhring¹⁸ and Köbner have ascribed, but rather to the presence of cells which have failed to undergo keratinization. It is hardly probable that the fungus should directly invade such firm, resistant, non-succulent material as nail-substance, as Heller⁴ and numerous others would lead us to believe; and if this were the case it could not produce such marked irregularity of structure, thickening (compare Fig. 6 with Fig. 2), debiscence, and imperfect keratinization. It is more probable that it primarily invades the matrix, where the cells are more succulent and favorable for its growth, and from the pathological change in this structure the nails become secondarily involved.

To recapitulate: Leuconychia is the result of some pathological change of structure of a plane of nail-cells, approximating a failure of the affected cells to undergo normal, physiological keratinization.

The cause may be trauma, malnutrition, febrile diseases, neuroses, or any agency which disturbs the growth, development, or keratinization of matrix cells in their change to nail-structure.

An infiltration of air is absent and there is no rational physiological basis for such a theory.

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MONILETHRIX.¹

BY E. WOOD RUGGLES, A.M., M.D.,

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MONILETHRIX, the subject of this article, is a disease of the hair, characterized by a nodose or beaded condition, and resulting in baldness of the involved area, whether the scalp or other portion of the body. It is an extremely rare affection, only about sixty-five cases having been recorded since it was first described in 1879, and the present case is the fourth to be reported in America. It is almost invariably located on the scalp, the case I am about to describe and one observed by Gilchrist being the only two on record in which the disease has involved other portions of the body to any extent.

Like trichorrexis nodosa, a somewhat similar disease, occurring in the hairs of the beard, there are alternate contractions and enlargements of the hair-shaft, but with these differences, that while in trichorrexis nodosa the nodes are relatively short and the remainder of the hair of an unvarying diameter, the nodes in monilethrix are long and spindle-shaped and the diameter of the hair varies constantly. In trichorrexis nodosa the node represents the diseased portion and appears under the microscope as a swelling of the hair, with splitting of the cuticle and interlacing of the fragments, so that it somewhat resembles a green-stick fracture. The hair always breaks at this point and leaves a broom-like mass of projecting filaments.

In monilethrix the contracted portion is the diseased one and fracture always occurs here, but generally without much fraying out of the ends. The microscope shows the cuticle to be intact throughout, save that in a very few hairs one finds transverse cracks or splitting of the hairs at the end.

The interest of this strange disease lies chiefly in its great rarity rather than in any striking features, either in symptomatology, which is subjectively *nil*, or in its objective appearance. It was first studied and described by Walter Smith of Dublin, in 1879. Since then something over sixty cases have been published. Up to this date only three cases have been reported in America—one by Bulkley in 1881, one by Gilchrist in 1898, and one by Prince Morrow in 1899. The two latter

¹ Read before the Monroe County (N. Y.) Medical Society, May 29, 1900.

and the present cases all affected physicians. This undoubtedly indicates more careful self-observation rather than any particular predisposition.

Not only is Gilchrist's monograph (*JOURNAL OF CUTANEOUS AND GENITO-URINARY DISEASES*, April, 1898) a most excellent presentation of the subject, but his case presented several peculiarities, *viz.*, the perfect health of the patient, the late onset of the disease (at 17 years of age, while most of the other cases were congenital), its remarkably symmetrical distribution, the presence of more pigment relatively at the constrictions than in the nodes (most of the cases presenting the contrary), and, above all, the location of the lesions on the legs instead of on the scalp as in all the other cases (though in one case a few axillary hairs and a solitary pubic hair were also affected. The case which forms the subject of this paper presents most of the same peculiarities as that described by Gilchrist.

The etiology of the disease is most obscure. After Hodara of Constantinople discovered the bacillus which causes trichorrexia nodosa, the thought lay very near that it might prove to be the cause of this very similar disease also. Gilchrist, however, made a very careful examination in his case, without finding any bacteria whatever.

The most plausible theory is that the disease is a trophoneurosis, though why there should be alternate periods of perfect and malnutrition, the latter represented by the constrictions, is inexplicable. The origin is intrafollicular, since the hair emerges from the follicle with the nodes already formed.

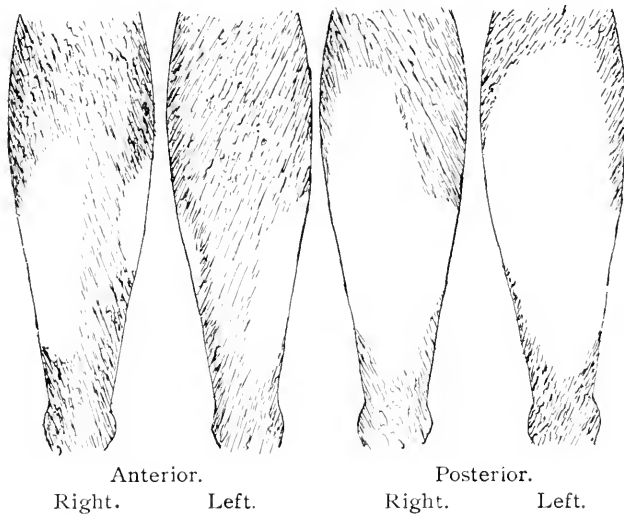
Heredity appears to exert a decided influence, since McCall Anderson found 14 cases in five generations, Sabouraud 17 cases in five generations, and Hallopeau and Lefèvre five cases in two generations.

History of the Case.—The patient is a physician, 36 years of age, healthy, well nourished, and of good habits, and has always had a particularly clear skin, though he has suffered from seborrhea of the scalp and slowly-progressing baldness for thirteen years. None of the hairs of the scalp, however, present the characteristic lesion of monilethrix. It is difficult to establish how long the disease has existed. During his first year in medical college, 1886, he suffered a great deal from bath pruritus (*Stelwagon*), a most intolerable itching of the skin, especially on the legs, after contact with water, and was obliged to give up his morning cold bath on this account. Since that time he has suffered occasionally from the same symptom, but it is very improbable that this pruritus was caused by or connected with the monilethrix, as it was severest upon the thighs, and these are only slightly affected.

The onset and progress of the affection have been so gradual that he cannot say whether it is three, five, or even more years since he first noticed it. He is certain that the affected areas were over half as large as now in November, 1897, and that they have been increasing gradually ever since. The only symptom has been occasional pruritus, but this has been severer on the arms than legs, and is pretty surely not caused by the disease.

The areas affected are practically symmetrical, as will be seen by the accompanying diagram, the bald surfaces being left white.

FIG. 1.



The right leg exhibits the larger area. The outer half of each leg is much more affected, though the posterior baldness, covering over half the posterior surface of the calves, extends well over on the internal surface.

The photographic plates will give some idea of the extent and appearance of the surfaces involved, but the shadows make parts look hairy which are perfectly bald.

As in Gilchrist's case the affected skin, instead of seeming diseased, has a rather velvety texture and is distinctly softer and smoother than the remainder of the legs.

The bald patch on the right leg is very irregular, covering nearly the whole posterior surface and extending externally around to the middle line of the shin in front. It measures in extreme diameters $11\frac{1}{2}$

by 11 inches. On the left leg much less of the internal surface is involved and the patch measures only $10\frac{3}{4}$ by 8 inches.

Over these areas the skin is almost perfectly bald, a few broken, nodular, very dry hairs and a very few long hairs, also diseased, still standing. Several of the diseased hairs were embedded to an unusual depth ($\frac{3}{8}$ inch) in the skin, and bent to a right angle at their emergence.

On the anterior surface of each thigh is a beginning of the disease, the hair being thin and frequently nodular, but the areas are badly

FIG. 2.



outlined and not sharply defined against dark-brown hair as on the legs.

Appearance of the Hairs.—When looking at the legs, with the light behind the observer, he sees numerous hairs which can be recognized as nodular in shape by the naked eye. On attempting their extraction many break off, and it will be found that they always break at a constriction.

Under the microscope many of the affected hairs from the thigh seem to be flat or ribbon-shaped, like the hairs of the beard, and spirally twisted, so that the constricted appearance is really caused by seeing the hair edgewise (as in 6, Fig. 4).

On the legs the spindle-shaped character is distinct and unmistakable, the hairs being round and not flattened at all.

They all present a more or less diseased appearance, some are split at the end, others are slightly frayed and have fibers of the cuticle hanging from them and all present some variation from the normal.

The hair marked 1, Fig. 4, is a good average specimen. As will be seen, the nodular structure extends into the hair-follicle.

Figs. 2 and 3 represent sections of the same hair. Like many others, this hair presents bands about the root (at *a*) which look like

FIG. 3.



fragments of cuticle detached and wound around it. At *b* we see a fracture of the cuticle. In 3 we see the great irregularity in the length of the nodes and the long internodular portion (at *c*), with a row of pigment granules extending through it.

In 4 the constricted portions are broken up into shorter nodes, the broken end is, exceptionally, frayed; at *d* we see a fragment of cuticle, while at *e* is a detached filament of the same.

In 5 the nodes are relatively much longer and are more regularly shaped. The internodes are particularly dark in this specimen. As

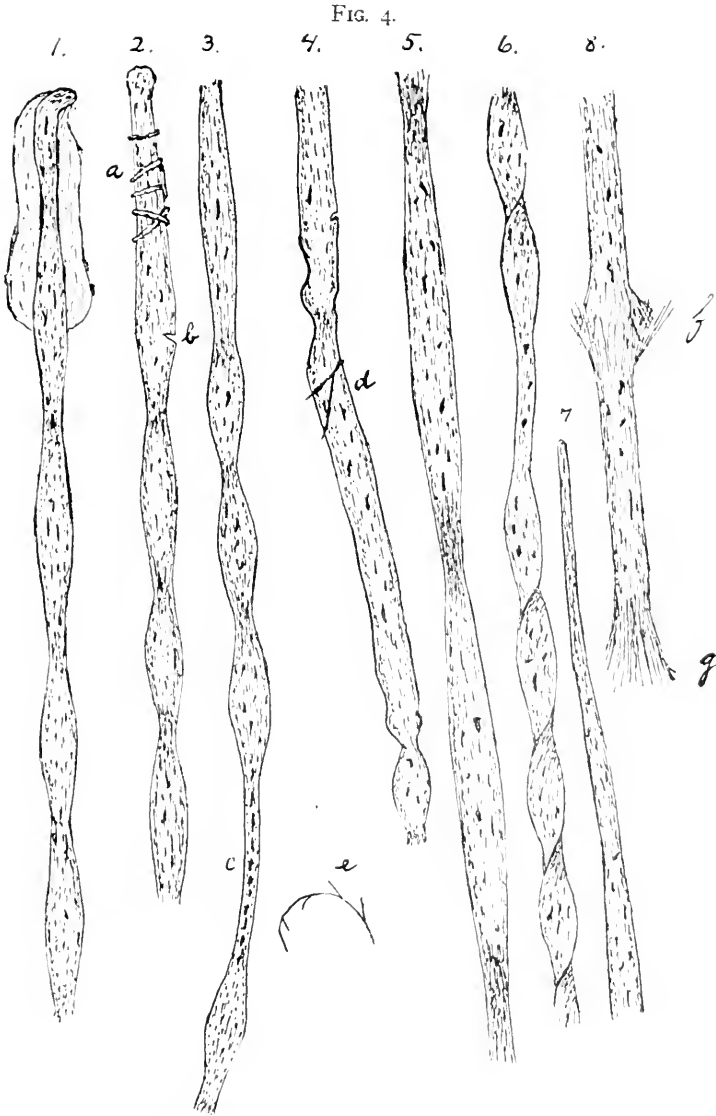


Fig. 1.—Ordinary nodose hair.

Fig. 2.—Nodose hair with fibrous bands about the root and a fracture of the cuticle.

Fig. 3.—Hair with irregular nodes.

Fig. 4.—Hair with irregularly-shaped constrictions and fragments of cuticle at *d* and *e*.

Fig. 5.—Unusually long nodes.

Fig. 6.—Twisted hair from thigh.

Fig. 7.—Hair with tapering extremity.

Fig. 8.—*Trichorrexis nodosa*.

Gilchrist points out, this characteristic of these hairs is probably due not to an increase in the amount of pigment, but to its compression into the smaller diameter. 6 represents one of the ribbon-shaped hairs from the thigh, the apparent narrowings being produced by its twisting upon its axis. Many of the hairs in this case terminated in a long, lance-like extremity as in 7. 8 represents a hair from a case of trichorrhexis nodosa recently seen, and shows the nodular swelling at *f* and the broom-like fracture at *g*.

In contradistinction to Gilchrist's case, most of the unfractured hairs end in a tapering, lance-like point. Also the length of the nodes is much more irregular, varying from three to ten or twelve times the normal diameter of the hair. The hair-bulb is shrunken and dead-looking in the diseased hairs, and often surrounded by the fibrous network described above.

Since the discovery of this case I have seen similar lesions upon the legs of three other patients and thought them also cases of monilethrix. On microscopical examination of the hairs, however, they proved not to show the characteristic changes. Many appeared to be nodular, but this was caused by the twisting of the flattened hair-shaft. These hairs were, however, not normal: their cuticle was thickened and uneven, and the baldness, whether dependent in one case upon a previous but long-cured eczema, lasting three years, the friction of the clothing, or some other abnormal condition, was marked and evidently a manifestation of disease.

Pathology.—According to Gilchrist, the epidermis between the hairs is thinner than normal. In one follicle the mouth was almost blocked by a firm, dense mass (hyperkeratosis) and the sebaceous gland was atrophied. The nodes and constrictions could be followed down to the lower fourth of the intrafollicular portion, and there were corresponding narrowings in the lumen of the follicle.

In the corium around this hair-follicle were found large numbers of connective-tissue and lymphoid cells, the latter being massed around the vessels. This growth of new cells was found only about one hair-follicle. There were no changes in the hair-papillæ, erector pili muscles or sweat-glands.

Therapeutics.—There is practically no treatment of the affection, though Crocker recommends rectifying any defect in the general health, in the non-congenital cases, and the stimulation of the scalp with the faradic brush.

AN UNUSUAL CASE OF NON-MALIGNANT PAPILOMA.

BY G. S. WHITESIDE, M.D.,

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BILLINGS describes a papilloma as "a surface growth whose general structure is the same as that of the papillæ of the skin." We will not then enter into the pathology. The variety most commonly seen at a genito-urinary clinic is the so-called "venereal wart." These are usually situated on the glans penis or prepuce in the male, and about the vulva in the female. Their existence is probably due to uncleanness of person. On other skin surfaces harder epithelial growths are the rule. These we are all familiar with on the hands, body, or feet. Sometimes, owing to rapid, abundant growth or ulceration and sloughing, either the hard or the soft variety may take on an appearance closely resembling a malignant neoplasm. At other times a growth beginning as a papilloma or endothelioma may become malignant. From a clinical standpoint it seems that those growths which begin as soft warts and rapidly produce large tumors, become malignant less frequently than those which ulcerate without producing so much new tissue.

The following case presents certain features which rendered the diagnosis obscure and which seem of interest.

February 9, 1900. E. J. D. Age 38. Male.

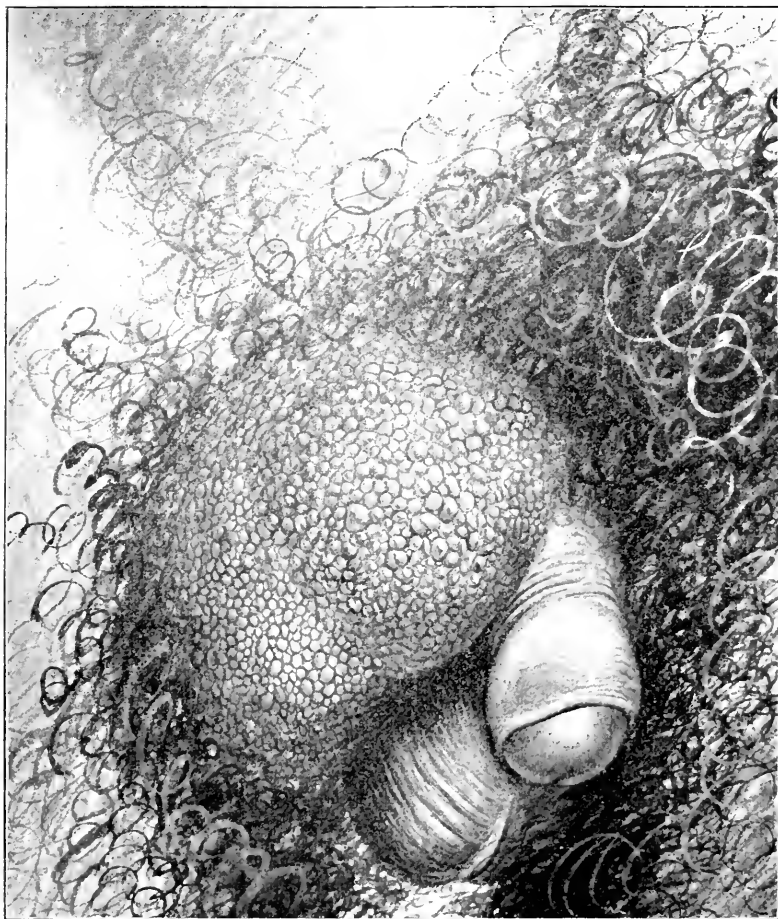
Family history not important.

Past venereal record as follows: Five years ago two ulcers of the penis. These were said to have been chaneroids. They soon healed under simple antiseptic treatment and no further symptoms occurred. Two years ago he had a mild attack of gonorrhea followed by a suppurating bubo of the right inguinal region. This was opened and in due time healed completely.

He dates his present troubles as beginning soon after the attack of gonorrhea two years ago. Then he began to have some frequency and difficulty in micturition. This was not annoying enough to lead him to seek advice. Six months ago he first noticed a lump in the left groin as large in circumference as a quarter of a dollar. The patient thought it was caused by a "strain." At that time he had no pain, but a mild smarting sensation in the inguinal region. The tumor grew slowly larger. During these months his difficulty in urination steadily increased. Eight weeks ago the mass in the groin was double

its original size. Then began a period of more rapid growth. Five weeks ago, he says, it "broke," discharging a watery fluid. At this time he began to have pain in this region. The tumor rapidly took on its present appearance. Three weeks ago bleeding began from the

FIG. 1.



growth. The loss of blood was never considerable or prolonged. His urinary difficulty was still advancing. Four weeks ago he passed bloody urine for the first time. He had to rise four or five times at night and complained of frequency during the day.

Physical examination showed the patient to be a spare, undersized,

man of apparently more than middle age. His clothes and person were very dirty; his underclothes damp with urine. He seemed emaciated and claimed to have lost twenty pounds in the past year.

Examination of the chest showed heart and lungs normal.

On abdominal inspection, a symmetrical tumor having the size, shape, and position of a seven-months' pregnant uterus. Percussion over this was absolutely flat. In the left groin was a reddish mass measuring 12 by 7 cm., covered by little nodular elevations from a pin-point to a split-pea in size. A greenish-white, foul-smelling discharge oozed up between these papillary elevations. The growth closely resembled a small cauliflower in shape and arrangement of its surface. Running diagonally across the tumor was a furrow by which it was divided into two unequal parts; of these the upper part was the larger. This region was somewhat tender to the touch. The tumor itself was of firm consistency, not movable, and not pedunculated. Rectal examination showed an apparently small prostate which seemed to contain nodules which were numerous and could not be clearly outlined.

The patient was then directed to pass his urine. He voided four ounces of pale, acid urine, with a specific gravity of 1009. It contained no albumin or sugar. It was then found that some obstruction of the membranous urethra prevented the passage of a moderate-sized catheter. A small Coudé catheter was, however, passed to the bladder. Twenty-six ounces of residual urine were withdrawn. The swelling in the hypogastric region had now disappeared.

The patient entered Dr. Watson's ward at the Boston City Hospital and it is owing to his courtesy that I am enabled to report the rest of the case.

On February 24th, Dr. Watson removed the papilloma. It was found to be entirely confined to the skin, not extending as deep as the fascia lata. Two small glands were removed which belonged to the superficial group in the region of the saphenous opening. This, then, did not explain the urinary obstruction.

A perineal section was done and two strictures of small caliber in the deep urethra were divided on a guide, which had been previously passed. On introducing a finger of one hand into the bladder and a finger of the other hand into the rectum, an explanation of my previous rectal examination was discovered. The prostate was atrophied, presumably as a result of the stricture of the urethra. The bladder was a large, heavy-walled and much trabeculated affair. These trabeculae had seemed like lumps in the prostate when felt through the atrophied

gland. The testicles seemed normal. A catheter was tied into the urethra and the further progress of the case was uneventful.

The man stayed in the hospital until March 27th. Before that time the greatest possible change had come over him. He had gained considerably in weight and did not have the anxious facies noticeable on entrance. A No. 27 French sound passed his urethra with ease.

The pathological report of the specimen of the tumor sent to the laboratory was that nowhere did the growth extend below the deeper layers of the skin. The glands removed were not infiltrated with any new-formed tissue cells. The histological appearances were not those of either a tubercular or a syphilitic process. Dr. Mallory's diagnosis was "non-malignant papilloma."

Unfortunately for the completeness of the report, the patient has never come back to the hospital as told to do. He is not to be found at the address he gave us. I am, consequently, unable to say whether recurrence took place or not.

Society Transactions.

NEW YORK DERMATOLOGICAL SOCIETY.

289TH REGULAR MEETING, MAY 22, 1900.

A. R. ROBINSON, *Chairman pro tem.*

A Case for Diagnosis was presented by DR. HENRY H. WHITEHOUSE.

The patient was a boy, eleven years old, seen that day for the first time. There was an eruption confined to the face and hands, of a year's duration. It had begun apparently as freckles, upon which small, flat, warty lesions formed. These subsequently became depressed, and then atrophied in the center, the lesion being outlined by a horny ridge or a line of epithelial fringe. The average lesion was the size of a pin's head, though there were some only about half as large. Some of them coalesced to form small irregularly-outlined areas with depressed warty surface and sharply-defined ridge or epithelial line at the periphery. There has been no subjective symptoms other than very slight itching at times.

The eruption was most marked on the chin and lower part of the cheeks and on the dorsum and sides of the fingers, the latter being more numerous near the tips. A few small lesions were scattered over the backs of the hands, one or two in each palm, and on flexor surface of the fingers.

DR. C. W. ALLEN thought the lesions on the fingers were warts that had been modified by the irritation of applicants or in some other way.

DR. H. G. KLOTZ thought there was a seborrheic process present which perhaps accounted for some of the changes observed.

A Pigmentary Syphilide of the Neck.—Presented by DR. C. W. ALLEN.

The patient was a midwife who, in 1897, had had upon the finger a chancre which had been acquired in the pursuit of her occupation while pinning a diaper on a woman with warts about the anus. This woman she had delivered of a macerated child. When first seen by him the sore produced by the prick of the pin had already lasted ten weeks. The diagnosis of chancre had been made at that time, and she had subsequently developed the eruption. A pigmentary syphilide had appeared very early on the side and back of the neck without any preceding eruption on this part, so far as he had observed. Although she had been under his care since then, and under constant treatment, there had been scarcely any signs of the disease except this persistent pigmentary syphilide. It was because of the latter that she was presented. On the back of the head she had a superficial navus, which she claimed was not originally there. It seemed to him that it had appeared after she had come under his observation. In 1891, at the meeting of the American Dermatological Association, he had made some remarks on erythema and nevus of the region of the nucha, and had stated his belief that there was an erythema which came in this situation in syphilis. This was not an erythema, of course, but was interesting in this connection.

DR. S. SHERWELL was of the opinion that the lesion on the neck was a pigmented syphilide. He found it difficult to believe that the telangiectic spot had developed in recent years, for he had seen a similar case in which the condition had evidently existed for a long time without having been noticed. Some acute disease in the neighborhood drew attention to it.

DR. P. A. MORROW thought it was by no means unusual for pigmentary syphilides to persist for a long time. It was a common experience that this form was not amenable to the syphilitic treatment—indeed, Fournier placed it in his class of parasymphilides on this account. The peculiar erythematous condition of the nucha did not seem to him characteristic of syphilis, and he doubted very much if there was any connection with the specific trouble.

DR. J. A. FORDYCE said that he had known these pigmentary changes to exist for a year or two, and they may be important in diagnosing the disease after the other evidences had disappeared.

DR. WHITEHOUSE agreed with the remarks that had been made in relation to the persistence of pigmentary syphilides. He had had one such case under his care for at least a year without any change. The condition on the nucha was an independent affection.

DR. KLOTZ concurred in the opinion expressed by the last speaker.

DR. ALLEN said that he had presented to the Society at one time a young man with a pigmentary syphilide of the neck. He saw this person frequently, and could report that the syphilide had disappeared, although the case had been shown only about one year ago.

A Case of Verrucous Development on the Thumb.—Presented by DR. E. B. BRONSON.

The patient was a young gentleman in whom the disease had begun five years ago as a simple wart. He had curetted it on one occasion, and latterly had been using electrolysis, yet there had been, in spite of this, a redevelopment.

DR. KLOTZ said the case somewhat resembled the cases of lupus erythematosus of the hands described by Dr. Hyde, particularly by the elevated red border.

DR. WHITEHOUSE thought the present clinical picture was fairly characteristic of tuberculosis verrucosa cutis.

DR. FORDYCE was of the same opinion as Dr. Whitehouse. It had apparently started in some infection about the nail. It was true there was no suppuration at present, but it was not always present in these cases.

DR. MORROW also accepted this diagnosis. He had seen a number of these cases in which there had been no inflammatory reaction except as the result of external injury or some irritation.

DR. SHERWELL took the same view.

DR. ALLEN said that tuberculosis verrucosa cutis did sometimes spread so as to change its position. Quite recently he had excised a lesion from a boy's knee at the margin of a cicatrix after it had resisted treatment for about one year.

DR. FOX said that he would hesitate to make the diagnosis of tuberculosis in this case because he had repeatedly seen ordinary verrucous growths at the side of the nail which had spread for some distance over the skin, and presented the same abrupt margin. He felt certain that a saturated solution of salicylic acid and collodion, frequently applied, would soften it so that it could be scraped off very easily.

DR. A. R. ROBINSON said the very fact that it had spread from the periphery

showed an infectious process, and for this reason as well as the objective characters he thought it probably a case of tuberculosis verrucosa cutis.

DR. BRONSON said that this diagnosis had occurred to him, of course, but it had not occurred to him when he had first seen the case because at that time the area affected had been about the same as now, only with the warty character very much more pronounced. It was decidedly elevated. He always had on his knuckle a simple wart, which was curetted, and had only begun to recur lately. The history was that the original development had been on the knuckle, and that this had gradually spread until it had been involved the wall of the nail and had there persisted. He had at first applied a 25 per cent. plaster of salicylic acid for about forty-eight hours until completely softened, and then curetted it very thoroughly. After a second application of the salicylic-acid plaster the acid nitrate of mercury had been thoroughly applied, but the condition had recurred. He had then gone over the whole area twice with electrolysis, but the disease had recurred apparently at the same site. He noticed now there had been a recession. The history did not seem to be that of tuberculosis verrucosa cutis. He had seen it occur in a warty form. Dr. Klotz would recall a case which both of them had seen, and which had resisted all sorts of treatment. Finally, the patient had applied a little nitrate of silver, and to the surprise of every one it had disappeared promptly. The question of epitheliomatous degeneration had then come up. There was no history of his having begun in a traumatism.

A Case of Probable Lichen Planus.—Presented by Dr. G. H. Fox.

The patient was a young negro woman who, when first seen, had presented an eruption looking like acne cachecticorum. Even now there were some small pustules such as are seen both in syphilis and eczema. A week later its deep purplish color had led him to think it was lichen planus. From the pigmentation and the general appearance of the eruption there was little doubt in his own mind that the case was one of lichen planus, in spite of the slight pustulation and a history of sore throat. She had had no anti-syphilitic treatment, yet the eruption had diminished considerably during the past week.

DRS. KLOTZ and WHITEHOUSE accepted the diagnosis.

DR. FORDYCE said that the case presented many features of lichen planus, but the possibility of syphilis had not been satisfactorily excluded. Some of the lesions looked like a miliary syphilide, but in spite of this he was inclined to accept the diagnosis of lichen planus.

DR. J. M. WINFIELD said that the appearance of the eruption was certainly that of lichen planus. The history of pains in the tibia did not seem to him of much importance as pointing to syphilis.

DR. MORROW was inclined to look upon this as a specific trouble, although before making a positive diagnosis he would like an opportunity to examine these lesions more closely by daylight. He was of the opinion that it was sometimes impossible to differentiate between a localized lichen syphiliticus and lichen planus without a minute examination of the lesions in a good light.

DR. BRONSON was surprised that at this late day there should be so much doubt about the diagnosis of syphilis. He believed this to be a case of lichen planus.

DR. SHERWELL said that on close questioning he had elicited the fact from the patient that the pains were not along the tibial crests but in the articulations,

and that she had had rheumatism at various times. This was interesting because he usually associated lichen planus with rheumatism, both in making the diagnosis and in selecting the treatment.

DR. ALLEN said that the more recent lesions corresponded to the clinical picture of lichen planus much more closely than to that of syphilis, simulating the latter.

DR. E. L. KEYES thought the lesions about the shoulder were not at all syphilitic, and that the quality of the encrustations of scales on the forearm resembled lichen planus. He agreed entirely with Dr. Sherwell about the association of rheumatism and lichen planus. Two of the worst cases of lichen planus that he had ever seen had been associated with rheumatism. The pains of which the patient had complained were just as likely to be rheumatic as syphilitic. The eruption was certainly still an itching one, for the patient scratched it. He looked upon the case as one of lichen planus.

DR. FOX said that one peculiar feature of the case was the pustulation, which seemed to be a part of the eruption. The disappearance of the lesions, leaving a pigmentation, was characteristic of lichen planus. The history of pains in the tibia only at night, the occurrence of sore throat at the time of the outbreak of the eruption, and the pustules certainly suggested syphilis. He nevertheless looked upon the case as one of lichen planus.

A Case for Diagnosis.—Presented by DR. H. G. KLOTZ.

DR. FORDYCE thought it was owing to some trophic disturbance of the skin.

DRS. BRONSON, SHERWELL and FOX thought the case one of vitiligo.

A Case of Lupus Erythematosus.—Presented by DR. C. W. ALLEN.

The patient was a man, and he was shown chiefly because of the scarring that had taken place over the whole nose.

DR. MORROW commented upon the unusual amount of scarring.

DR. FOX remarked that he had seen erythematous lupus leave much deeper scarring.

A Case of Keloid.—Presented by DR. ALLEN.

The patient was a young lad presenting a keloid which had begun two years ago. He had been treated with electrolysis, but the lesion had promptly returned. He had then had it excised, and a piece of the skin from the arm transplanted, but it had returned, and a patch of keloid had also formed on the arm where the skin had been cut out for transplantation. This person had received a cut on the leg at one time, but there had been no keloid production there, and the same was true of the prepuce, the man having been circumcised. The keloid had been reduced nearly one-half by injections of a ten-per-cent. solution of thiosinamin.

DR. SHERWELL asked if any one present had seen keloid form on the lower extremities below the knee. He could not recall such a case, and would like to hear from others in view of elective distribution.

A Case of Multiple Pigmentary Nævus.—Presented by DR. WHITEHOUSE for DR. S. LUSTGARTEN.

The patient was a young boy in whom these nævi were first noticed at the age of 2 years.

A Photograph of Bromide Eruption.—Presented by DR. H. G. KLOTZ.

DR. ALLEN also presented a photograph of a woman who had taken for some nervous trouble Peacock's bromides. The true nature of the skin manifestation had gone a considerable time unrecognized before it was sent to him. It had taken about six weeks to cure it after all bromide had been stopped.

A Series of Photographs.—Presented by DR. ALLEN.

DR. ALLEN exhibited the photograph of a case shown at last meeting regarded by most members as probably scabies. The lesions had disappeared of their own accord, and thick-crusts lesions on the thighs were very dissimilar to any which in his experience occurred in scabies. No treatment for scabies had been used.

DR. ALLEN also presented a photograph of a cured epithelioma of the face beneath the eye; also a photograph of a case before treatment; another after the application of caustic paste, and a third after the case was supposed to be cured.

He also presented photographs of another case of epithelioma of the face, near the mouth, and one of the nose, both of which he had treated with the paste since the last meeting.

He also presented the following photographs: (1) A peculiar furunculosis; (2) erythema multiforme; (3) a peculiar seborrheal affection of the nipple, with horn-like projections; (4) tuberculosis of the hand in a child of two years, with ulcers; (5) dermatitis exfoliativa in a syphilitic child, and (6) pityriasis rosea showing erythema multiforme-like lesions on the hips after the spots had all disappeared from the trunk.

DR. FOX said that in connection with the case of supposed lichen planus shown by him this evening, he desired to exhibit a photographic lantern slide of a case of undoubted lichen planus in order to show the striking similarity between the two cases.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON GENITO-URINARY SURGERY.

Stated Meeting Held on Wednesday Evening, April 18, 1900.

JOHN VAN DER POEL, M.D., Acting Chairman.

ORDER: PRESENTATION OF INSTRUMENTS, SPECIMENS, AND PATIENTS.

A New Rectal Recurrent Tube Combined as an Electrode.—DR. GUITERAS said that apropos of the paper which he had read at the last meeting, in which he spoke of the method of treating vesiculitis by means of the rectal tube and hot saline irrigations, together with massage of the vesicles and prostate, he now presented a tube which was similar to the one he had shown a few meetings before, but which had the advantage of being able to charge the water flowing through it with electricity, thus giving an electric douche to the patient. One of

the poles of the battery was inserted into the inflow tube so that the fluid entering into the rectum and coming in contact with the prostate and seminal vesicles was charged with electricity through the metal connection, by which by galvanism either the positive or the negative pole could be used. The other pole was generally attached to a flat pad in the lumbar region, although it could be placed over the pubes or wherever desired.

Another electrode was shown which could be used in prostatic cases and also in vesical cases for stimulation, which could be screwed onto one of the sponge-holders of a battery and inserted in the rectum. It had a curve into which the prostate fitted. It was more of a prostatic electrode for giving electricity in cases of disease of that gland.

The speaker was in the habit of using both these electrodes after the stage of excitation or irritability had passed out of the vesicles and after the inflammatory stage had passed, when after the use of hot rectal douches or massage the vesicles and the prostate were no longer sensitive. In those cases very often there was some atonic condition, which was much benefited by that method of applying electricity.

DISCUSSION.

DR. VAN DER POEL said that he had had no personal experience with electricity, either faradic or galvanic, in the treatment of prostatitis, but both methods were favorably reported on at the last Congress of French Genito-Urinary Surgeons in Paris by Janet and Hogge, especially in such cases as Dr. Guiteras had drawn attention to; after the acute inflammatory stage had passed, Hogge also employed the constant current, combined with massage, during the first stages of prostatitis, with good results, although it was not stated how soon they were used.

Janet claimed that faradization would evacuate the gland and cure certain cases where massage had failed, but he combined both methods, and in combination with lavage or rectal douche. Hogge claimed better results with galvanism than with faradism.

DR. VALENTINE inquired the amperage employed and the duration of the *séance*.

DR. GUITERAS said that the duration of the *séance* was generally ten to fifteen minutes and the milliamperage varied, if he remembered correctly, about from five to fifteen milliamperes.

REPORT OF CASES.

1. Chronic Urethral Discharge, Containing a Diplococcus Decolorized by Gram and Capable of Growth on Indifferent Media.—DR. SWINBURNE.

The patient, E. B., consulted the writer in August, 1899, giving the following history: Chronic urethral discharge for five months, which, though very slight, was very annoying. Thought he had had an attack of gonorrhea, his first, three years ago, which was treated for two weeks only by internal medication, after which it had definitely ceased, no microscopic examination had been made. The following year he had a similar attack, which had terminated in like manner. Present attack began five months before coming to the writer. Again no microscopic examination was made, he had experienced no ardor urinae, had had no pain of any kind—just a slight discharge, which had practically remained the same from the beginning, sometimes more, sometimes less, sometimes absent

for a few days, was easily made worse he thought when he drank any malt or spirituous liquors. His physician had furnished him with various injections to use himself. He had not used anything for two weeks before presenting himself.

Examination revealed a slight mucopurulent discharge, a long prepuce covering the glans was continually moist and had a characteristic odor. The lips of the meatus were not reddened. The first glass was slightly cloudy and contained a few threads; second glass was also slightly cloudy—less so than the first. A smear from the meatus contained numerous bacteria, among them a diplococcus, which, though extra-cellular, resembled the gonococcus in size and shape and coloring properties, and although many examinations were made they were always extra-cellular.

After one week of daily irrigations with permanganate, followed by injections of protargol, the patient was exactly as before, except that the cloudiness of the second glass had increased, having the appearance of a bacteriuria. Under mild silver-nitrate instillations the urine cleared rapidly, but the discharge had scarcely lessened. The prostate and vesicles were always normal to the feel and nothing could be expressed. The urethra showed no narrowing at any point, and under the endoscope had an absolutely normal appearance, no local lesion of any kind could be found.

Dr. Johnston had also examined the patient several times and corroborated the findings of the writer.

Dr. Buxton of the Loomis Laboratory kindly made cultures of the discharge and was able to grow on serum-agar a diplococcus which could be decolorized by the Gram stain, and he was further able to grow this diplococcus on plain gelatin and other culture-media, thus differentiating it from the gonococcus.

The treatment then instituted was to irrigate the urethra about twice a week with 1-8000 silver-nitrate solution, followed by instillations of a 5-10 gr. sol. of silver nitrate, which caused no discomfort to the patient. The discharge finally ceased only after prolonged treatment by this method.

A very similar case to this has been published in the *Annales*, July, 1899, where the authors, Nogués and Wassermann, speak of the diplococci as being, for the most part, extra-cellular, though some were intracellular, and in their case the prostate was infected.

DISCUSSION.

DR. VALENTINE said that this case of Dr. Swinburne's brought to mind two patients in whom irrigations distinctly failed. Both presented diplococci, intracellular as well as extra-cellular. He diagnosed them as gonococci. Unfortunately he was not so situated as to enable him to make cultures in either case. After exhausting all other accepted therapeutic measures, he used instillations of silver nitrate, carefully observing Guyon's technic. In one case the discharge subsided after two such instillations, in the other five were required. The latter had suffered with apparent gonorrhea for about two years. In neither case were the adnexa involved. After treating the second case, Nogués and Wassermann's report of their diplococcus was published in the *Annales*. It gives the scientific description of what the speaker thinks is the same diplococcus as found in Dr. Swinburne's and his own cases. Investigations such as Dr. Swinburne had reported would doubtless lead to the recognition of numerous bacteria resembling gonococci; their characteristics would become known and our therapeutic measures fitted thereto.

While to-day the greatest number of successes were obtained by irrigations, we doubtless would learn, as the result of such investigations, to distinguish cases and would not be led by the degree of empiricism that still prevails.

DR. CHETWOOD said that the more experience he had with the Gram test for the recognition of the gonococcus and with cultures the more he was led to feel that the success of these procedures and the results attained depended upon the individual who conducted them. He was sure that he had frequently been led into error by faulty technic in the conduct of the Gram test. It was not sufficiently simple to say that the Gram test was used any more than that a microscope was used. It was very important that this test should be carried out properly in its smallest detail in order to rely upon the showing obtained. This matter was very strongly emphasized by Dr. Weinrich of Berlin in a presentation of the subject in the *Annales*, in which he shows that the use of water between the steps of the Gram or of alcohol which is not absolute, or of decomposed solutions of gentian-violet or Bismarck-brown leads to the formation in the bacteria of a dye which is not dissolved out, and consequently gives a faulty result. Dr. Chetwood personally thought there was nothing more conclusive than the Gram test when properly conducted, but it was a very fruitful source of error when improperly done.

DR. LAPOWSKI said that the question raised by Dr. Swinburne was of great importance. It undermined the value of Gram's method in differential diagnosis of the gonococcus. Recently, Dr. Cottet, in his "*Recherches bacteriologiques sur les Suppurations Peri-urethraes*," reports 15 cases of urethral trouble where he isolated several kinds of anaerobic microbes, and some of them were exactly alike as to size and staining qualities to gonococcus Neisser. He was unable by microscopical examinations to distinguish between the gonococcus and some of the cocci found by him. Only cultures settled the doubtful question. Since then observers reported similar facts. Judging from Dr. Swinburne's bacteriological report he would rather say there was a mixed infection.

Lustgarten's and Mannaberg's observations could not be taken in consideration in regard to the present question, as from their report it seemed that they did not use Gram's method in determining the kind of cocci they dealt with.

As to the value of Gram's method, he fully subscribed to the opinion expressed by Dr. Chetwood. It was not only important who made the examination, but how he made it; the exact number of minutes used for decolorization, the quantity of alcohol, and other such minute details were to be necessarily given when a discussion was invited as to the value of Gram's method. In his hands the original Gram's method gave him the best results.

Dr. Swinburne's report emphasized in his opinion one point: only by bacteriological examinations could we arrive at an unquestionable conclusion as to the presence or absence of a gonococcus. The use of Gram's method alone could not be regarded as a sufficient proof, especially in cases of where the question of marriage was involved.

Dr. Lapowski asked Dr. Swinburne to give more details—had he used the Gram method, how long did he stain and decolorize the slides, and what kind of alcohol did he use? A fuller report of the culture media was also desirable.

DR. SWINBURNE replied that unfortunately a full report of what had been done was not sent him; it had been done by Dr. Buxton last October and the results only had been reported: (1) That a diplococcus had been grown in pure culture; that it was decolorized by Gram. (2) That it could be made to grow

on ordinary culture-media, but that it also grew on serum-agar. (Since this discussion the speaker called on Dr. Buxton, but he had kept no notes of the case, and could not remember exactly what media had been used. It is unfortunate that further investigations had not been made.)

2. Abscess of the Prostate Occurring Three Weeks after Apparent Complete Recovery from a Primary Gonorrhea.—DR. SWINBURNE.

The second case reported by the writer was a patient at the Good Samaritan Dispensary. This patient came to the dispensary in the early part of July, 1899, with a beginning gonorrhea, his first attack, the discharge containing typical gonococci. He was treated daily, except Sunday, for three weeks. At this time the urethra was perfectly clean and the urine clear, and he was to go through his beer test. He did not return for three weeks, and came then because he had had pain in the rectum and perineum. There was no urethral discharge, and the urine was absolutely clear. Examination per rectum showed that the prostate was enlarged, more so on the right side, very painful to pressure and distinct fluctuation was made out on the right.

He was sent to Dr. Alexander's ward in Bellevue Hospital and operated upon by Dr. Bolton. The writer was present at the operation. The prostate was well exposed by a wide crescentic perineal incision, with the concavity toward the anus. Incision into the right lobe disclosed a cavity containing pus, the cavity easily admitting the first joint of the index-finger. The left lobe was normal. The cavity was washed out and drained with a wick of iodoform gauze, and the wound was sutured. The urethra was not entered. The patient made a rapid recovery and left the hospital, neither his urine nor his urethra at any time showing evidence of trouble.

Six weeks after the operation the patient was examined by the writer. The wound had healed perfectly, the perineum was supple, the urine clear, and the prostate normal to touch.

It is to be regretted that no microscopic examination was made of the pus contained in the abscess cavity.

DISCUSSION.

DR. GUITERAS said he thought the case of Dr. Swinburne's was very interesting. He saw no reason why, even if the urine were clear, that there should not be perhaps in the prostatic follicles or ducts some local inflammation, and if the mouths of those ducts were closed on account of congestion in the walls there would be perhaps no shreds in the urine; *i.e.*, nothing washed out from a localized inflammation of the prostate, and the urine therefore might be perfectly clear, although he saw no reason why it should not develop later on into a follicular abscess or an abscess of any size in the prostate.

Regarding treatment, he thought in almost every case of prostatic abscess that it would break either into the urethra or into the rectum. Of course he knew there were cases which were reported and a certain percentage of them where they pointed in other directions, but he had never yet in his recollection seen a case which did not break either into the urethra or into the rectum. He thought that if a prostatic abscess was to be opened it was much better to open it into the rectum than it was to make that large incision of which Dr. Swinburne had spoken and the necessary extensive dissection. It certainly left a great deal of cicatricial tissue in the most important part of the body or perineum, which

was damaged in consequence of it, which made it more liable in the future to contractions and more liable to suppurative condition than if the tissues in that region were perfectly healthy.

He had seen cases that had been opened through the rectum, and he had also seen those that burst into the rectum, and it was, in his opinion, wonderful how quickly and completely they would heal. He recalled one case where there was a very large abscess of the prostate, involving nearly the whole of one lobe; he could very easily put his finger into the hole following its rupture, and yet under rectal douches of carbolic, if he remembered correctly, that abscess healed quickly and left a depression there corresponding to the half of the prostate; and in other cases, when he thought it advisable to operate on a patient with abscess of the gland through the rectum, the introduction of the speculum in order to expose the parts thoroughly, caused sufficient pressure to rupture the abscess and allow its contents to escape into the rectum, and the most peculiar part of such ruptures was that they were generally not large and could with difficulty be seen and could not be well outlined unless in the case of an ulceration, as in the first case he spoke of.

He also recalled a case where the patient was supposed to have colitis following prostatic abscess. This prostatic abscess ran a typical course; there was retention of urine from an impediment in the prostatic urethra and the febrile condition characteristic of prostatic abscess. Shortly after the patient's symptoms were relieved colitis was diagnosticated. The bowels moved once a day and the patient was douched by rectum every twenty-four hours and it was surprising to see how much discharge there was in those washings that had collected during that time. Those washings when they were put under the microscope showed a large amount of pus, which tended to show that the deposit there did not come from a colitis but from prostatic abscess, as there were no symptoms of colitis.

DR. LAPOWSKI said that abscess of the prostate when opened into the rectum had often a very favorable course. Several days ago he opened unintentionally a prostatic abscess by putting his finger into the rectum. The prostate was large and on the right lobe a point softer than the remaining portion of the prostate could be felt. In introducing the finger he ruptured the abscess. A very favorable recovery followed.

He asked Dr. Swinburne why he called his case a mild gonorrhea. The mildness or severity of a gonorrhea depends upon its complications.

DR. VALENTINE said he understood from Dr. Swinburne that in the case recited, it was the patient's first gonorrhea. It then was certainly singular, at least judging from his experience, that such a serious complication occurred so early in the case. On the other hand, it was equally singular that such cases did not occur oftener. As in his other report, Dr. Swinburne had rendered them a service by reciting that one.

DR. GUITERAS said he recalled a case, one of the worst cases he ever had, which occurred the second week in gonorrhea.

DR. SWINBURNE, in closing the discussion, said that he had presented the case because it seemed to be an unusual and interesting one. It was the only case he had ever seen like it. He had seen plenty of cases of prostatic abscess, plenty of abscesses of the prostate that had broken into the urethra and into the rectum; he had not seen any that did both and formed a recto-urethral fistula; they sometimes did that.

He has called it a mild attack of gonorrhea because the patient had very few symptoms of any kind during his attack; after the first few days he had very little discharge, and the case came to a termination rather early for gonorrhea, and so far as the urine being clear and yet having pathological lesions, we see such cases every day. Never tell a man he is cured because the urine is clear; never say to ourselves: that the urethra is clear of all lesions, whether prostatic or anterior, until a complete examination of the patient has been made. His own rule in treating these cases was, after all cessation of discharge and after the urine has cleared, he gave the patient a week of rest from all treatment and then, if his urethra remained free—no discharge—he is to go through the beer test, and after he has gone through that, if that was successful, or if the nitrate of silver 2 per-cent. injections were added—if he had gone through that successfully—then he was to return at the end of four weeks to two months to see whether his prostate and seminal vesicles were in good condition, and a very few, however, come back for that examination. Most patients consider they have had enough and that they are cured, and think the final examination an unnecessary one.

This man had come to the cessation of his urethritis and he was to return at the end of a week. Instead of that, he came back at the end of three weeks, having for a day or so had distinct pain in the rectum, and it was very unusual to see a case with so clear a urine, combined with prostatic abscess. It was a very rare thing.

As the case was seen so early, it seemed best to operate on the case through the perineum and not let the man suffer for several days for the abscess to come to the surface, either to the rectal or the urethral surface. He was that very day put under ether and the after-results of the case were that the perineum was perfectly supple and in perfectly good condition. The prostate when he saw him was perfectly smooth, so that six weeks after the wound healed he was in perfectly good condition.

DR. LAPOWSKI asked Dr. Swinburne if he had examined the prostate when the patient was under the influence of ether, and if he was able then to determine the size of the prostate.

DR. SWINBURNE replied that he had in the same way.

DR. LAPOWSKI said that it was reported in French literature that when the patient is under ether it is impossible to find out the boundaries of the prostate. He never had had occasion to verify it.

DR. SWINBURNE replied that it was perfectly possible to make out the fluctuation in the right lobe and none in the left, and the size of the prostate, and everything. There was no change in the anatomical relations.

DR. GUITERAS said he thought in speaking of the condition of the prostate under ether, that most of us had often, in operating for stricture, where we had to be guided by the apex of the prostate, found that the line would not disappear, otherwise we would lose our guide.

Regarding the prostatic abscess and the contour of the prostate afterward, he thought that in every case where a man had had a prostatic abscess of any size, that the gland would be deformed, and one would be able to find that deformity either in a depression, the absence of most of one lobe, the absence of part of both lobes, cicatricial bands extending across the gland, or some pathological condition that could be clearly outlined by the finger.

DR. SWINBURNE said that ordinarily he thought he could, but in his case

the pro-tate was perfectly normal to the feel, very smooth and normal in size, and no one would ever suspect it had ever been the seat of any disease at all.

1. An Auto-irrigator for the Urethra and Bladder.—By DR. F. C. VALENTINE.

2. A Case of Hypospadias Operated on by Beck's Method.—By DR. F. C. VALENTINE.

Urethral and Vesical Auto-irrigator.

Dr. Valentine, in presenting this device, said: Adverse criticisms of the irrigation treatment of gonorrhea are always coupled with the assertion that it is impossible to get patients to visit the office twice daily for treatment, as it is necessary in the beginning of a case. This may apply to general practitioners in a measure, especially when it is the patient's first clap. But as patients who have suffered before are much more obedient, and as those who eventually reach the specialist have usually had sad experiences, this objection does not apply. There are, however, a number of men, such as commercial travelers and those engaged in financial operations, who cannot even remain in the same town more than a day at a time.

Then, again, another set of men are unfortunate enough to earn such small salaries that they cannot pay for two visits daily, but who cannot avail themselves of dispensary services, even if the dispensary hours were such that by attending them they would not lose their positions. The needs of these people I believe are overcome by the little device I beg to submit. It is made by the Rubber Manufacturing Company of Akron, Ohio, and consists of a modified douche-bag, with a simple stop arrangement, a soft rubber shield, and so soft a conicle nozzle that it cannot injure the most sensitive meatus. It is far from my mind to endorse this apparatus as one to place in the patient's hands for the entire treatment, according to his judgment, of gonorrhea. Indeed, I would urge that the patient be not permitted, save when he is a most exceptionally dextrous one, to make intravesical irrigations with it. But my trials have shown that any patient can be taught in a few minutes to perform successfully and in a neat and cleanly manner, most thorough anterior irrigations with this device. The solution employed must naturally be prescribed by the physician treating the case.

A further use of the device, for which it in practise has commended itself to me, is an easy, uncomplicated bladder washer for those who are obliged to catheterize themselves. The conical shape of the nozzle makes it fit any catheter. While withdrawing the catheter the urethra can easily be slushed out by simply compressing the clasp during the exit of the instrument. The whole apparatus can be folded into so small a space as to slip easily into a coat or trousers pocket. It would be taking too much of the Section's time and, indeed, be a work of supererogation to describe in detail this device or to suggest solutions to be employed with it. I offer this auto-irrigator now only as a preliminary report.

A Case of Hypospadias Operated On by Beck's Method.

Dr. Valentine showed a patient operated on by Beck's method, which requires but one operative procedure, while others often need several sances. Beck's operation for hypospadias is predicated upon the extensibility of the urethra.

In Dr. Valentine's case the glans appeared normal, but upon separating its lower surface the site of the fossa vesicularis was occupied by a deep, broad groove. The urethra opened about a quarter of an inch below the glans. The operation devised by Beck consists primarily in a central incision reaching from the urethral opening to the middle of the posterior third of the pendulous portion. Another incision encircles about one-third of the neck of the penis, at the level of the urethral opening. The flaps are then dissected back on both sides to thoroughly expose the corpus cavernosum urethrae, which is then dissected from its bed between the lower aspects of the corpora cavernosa penis. A narrow bistoury is then driven through the glans, behind the sulcus before described, and before withdrawing the knife the channel so made is slightly enlarged by incisions to the right and left thereof. A forceps is then passed through the channel from its artificial meatus, at the tip of the glans, and the urethra, enveloped by its corpus cavernosum, is drawn through the glans and attached to the artificial meatus by four sutures. The flaps that were dissected from the penis are replaced and sewn together. Dr. Valentine thanked his patient, Mr. C. S., for coming before the Section to show the results of the operation. He, like perhaps the majority of others with a genito-urinary deformity, suffered from mental depression in consequence thereof. Since he urinates from the tip of his glans instead of from the body of his penis his spirits have become entirely normal.

DISCUSSION.

DR. VAN DER POEL asked, in regard to the latter case, how far back the urethra was dissected.

DR. VALENTINE replied one-half of the pendulous portion, as will be seen by the patient.

DR. CHETWOOD said he did not approve of putting an irrigator into the hands of a patient with acute gonorrheal urethritis. As regards the use of the irrigator of Dr. Valentine in cases introduced to catheter life, he failed to see its advantage compared with the original Keyes-Van Buren bladder irrigator, which was more simple and practical for use by the patient himself. After the introduction of the catheter, it required simply to turn the stop-cock one way to fill the bladder and the other way to empty it. There was no danger of introducing air into the bladder, and the operation was as near automatic as it possibly could be.

As for cleansing the canal and the penis, it could be as easily done prior to the introduction of the catheter with this instrument as with Dr. Valentine's. As a matter of fact, patients who were once introduced into catheter life had about as much resistance to infection as it was possible for a man to attain; in fact, after they had once been thoroughly inured to catheter life some individuals could go so far as to carry their catheters in dirty pouches and lubricate them with tobacco-foul mouths, which was, of course, to be condemned; but it was not asepsis which was aimed at during this catheter period, but a reasonable antisepsis.

In regard to the balanic hypospadias, Dr. Valentine was to be congratulated upon the very excellent result. He had no personal experience with the operation of Dr. Beck, but the only objection he could raise theoretically was a possible tendency to foreshorten the penis, with a consequent downward curvature. An alternative operation he was much impressed with and had since tried, he had

read of in the *Annales*, but did not remember the author. It consisted in taking a sharp instrument and boring an opening through the glans and introducing a Thirsch skin-graft on a stiff catheter, which was adjusted loosely in place with one or two stitches. He had recently operated upon a case of epispadias in which he succeeded in making a very good preliminary canal from the end of the glans back to the epispadias opening, which had remained permanent without any cicatricial contraction whatsoever.

DR. SWINBURNE said, in regard to putting an irrigator into the hands of a patient for his own use, there certainly were cases where it was found expedient to do so. While he should hesitate personally to give a patient who came with his first attack of gonorrhea such an instrument, he should certainly not hesitate after he had had other attacks. There were many cases where daily irrigations would be of great use to them if they could not come to the office to get them, and such an instrument as that was very convenient, compact, easily carried, and ready at any time. He thought it was a very good instrument, properly used. No doubt those who had had experience in these cases knew when to give them.

As regards the case of hypospadias, he had never had occasion to use the Carl Beck method, but he had looked upon it as a procedure he should try, and he was very glad to have seen this case because he thought it is an excellent result—much better than one or two cases he had seen operated on by the Thirsch method.

DR. GUITERAS said he saw no reason why, in some cases of chronic cystitis and chronic posterior urethritis, the patients should not irrigate themselves. He did not think it was a good idea in acute urethritis; they might do themselves damage, but in the other cases he thought it was often a very excellent plan.

DR. LAPOWSKI said he was against giving into the hands of a patient suffering from any form of gonorrhea an instrument, and not even such a harmless one as Dr. Valentine had presented. What good did it do? It did not cure a gonorrhea; it never would do it; only harm was done to the patient in a great many instances. He would repeat, he spoke only of gonorrhea. By rest, diet, cleanliness, and sometimes plain anterior irrigations by means of a syringe, he obtained as good results as Dr. Valentine, only he said he did not cure the gonorrhea. The discharge stopped, gonococcus disappeared occasionally, for a shorter or longer time, but that was not a cure. If Dr. Valentine or any advocate of the irrigation method would show that he could cure a gonorrhea by this method, say that he obtained better results than by the method of non-interference, then he would acknowledge the merit of the method. Until that was done he had to object strongly against giving the instrument into the hands of the patient because it did harm instead of good.

DR. VAN DER POEL, the chairman, said he rather coincided with Dr. Swinburne as regards the treatment of the first attack of gonorrhea. It would be a dangerous expedient to place Dr. Valentine's instrument in the hands of a young man with his first attack of gonorrhea, and with many individuals, at any time. But there were cases seen in private practice, patients who had had gonorrhea several times before, who were unable to present themselves regularly for treatment, with whom, should it still be preferred to use permanganate lavage, the instrument would be of great service. As regards irrigation of the

bladder by the patient himself, with this instrument, it would doubtless prove of great use, as a simple but serviceable device.

Dr. Valentine, in closing the discussion, said he was exceedingly obliged by the thorough discussion with which the Section had favored his demonstration of the auto-irrigator and the case of hypospadias. He regretted, however, that regarding the former, from some of the remarks made, he must deduce that he expressed himself badly. No one, he thought, would dream of indiscriminately prescribing for any patient an instrument, even one with so soft, delicate a point as this one, for the entire treatment of gonorrhea. Still, would it not be better to hazard the irrigations, which might be necessary at times when the general practitioner could not perform them, to an instrument that could not possibly produce even the slightest bruise to the most sensitively inflamed meatus? And was it not a fact that any of the piston syringes employed for the purpose were more likely to injure the patient? The endorsement which the auto-irrigator had received from the gentlemen present certainly did away with any apprehensions that might arise in those not familiar with the benefits of the irrigation treatment. If its harmlessness needed further endorsement we might seek it with those who make the grave mistake of injecting the urethra through a soft catheter.

Dr. Chetwood had reminded them of the two-way stop-cock used for bladder-washing in patients who must catheterize themselves. The value of this method could not be disputed. This little irrigator, however, performed exactly the same thing in a much easier manner and, moreover, was so much simpler in construction, sterilization, and technic, that its employment commended it above the more complicated and difficult method.

He fully agreed with Dr. Lapowski that this instrument would not cure gonorrhea, and further that no instrument would do so. He could not, however, in the light of experience, agree with him in the assertion that gonorrhea was incurable, nor that as good results were obtained by quiet and diet as by careful treatment. But assuming, merely for the sake of argument, that rest in bed and an appropriate diet would cure gonorrhea, how many of the afflicted thousands could be so treated? Dr. Lapowski said that, among other men of reputation, Casper denied the curability of gonorrhea. Dr. Valentine said that though he himself was a specially favored student of that gentleman, he had never heard him express that thought, nor did careful study of his writings reveal it. However, this discussion was far from their present purposes. He could do nothing better in this connection, he thought, than to again repeat his oft-repeated invitation to Dr. Lapowski, that he act as censor over the large number of cases of acute, chronic, and complicated gonorrheas that came under his dispensary and private care; that he do this as long as he please, in any manner he please; apply the tests he chooses, and when satisfied that either he or that majority which hold to the curability of gonorrhea were wrong, he would report the results. Until that was decided to the satisfaction of the most pessimistic, he should feel obliged to continue the irrigation treatment of gonorrhea, and to prescribe this convenient little irrigator as an adjuvant thereto.

Regarding his patient who was operated on for hypospadias, he must insist that the congratulations the gentlemen present had given him belonged to Carl Beck of New York. While science has no country, it is a bit of pardonable pride that leads us to claim for America what belongs to us. Beck's operation

has been claimed by European surgeons, who "invented" it about a year after Beck had fully published its details. Such discoveries and inventions are not rare. An operation, a method, an apparatus is devised, is demonstrated and made public in the profession, and another who sees or reads its description soon forgets the originator and "originates" the same thing anew. Beck has suffered the same treatment. To revert to the case in hand and to reply to the question of Dr. Chetwood: Shortly after the operation there was some incurvation of the penis during erection. As the infiltration at the lower aspect of the penis subsided, erections became more normal.

Dr. LAPOWSKI said he would gladly accept the challenge of Dr. Valentine if the investigations would be conducted scientifically. He would show to Dr. Valentine a good many reports of men known in the world of genito-urinary surgery who, not in mere words, but based upon bacteriological and clinical observations, deny the effectiveness of this method, of any method by means of which we at present assume to cure gonorrhea. He would show him scientifically-conducted clinical reports where nearly every organ of the human body was affected by the gonococcus. He referred him to the work done in Harvard and Johns Hopkins universities regarding the supposed cases of gonorrhea. In views of such reports, of what value was a report of a gonorrhea based upon superficial examination of the urine or discharge. If Dr. Valentine could report a case with bacteriological examination where, by means of his irrigation method, he was able to cure even 1 out of 100 cases, he would acknowledge he was wrong, but until he did that he could not claim he cured gonorrhea.

Selections.

CUTANEOUS DISEASES.

Arsenical Pigmentation and Keratosis.—LOUIS P. HAMBURGER (*Johns Hopkins Hosp. Bull.*, 1900, p. 87).

The basis of this interesting article is a patient forty-two years of age, who presented himself at the Dispensary, having a swollen abdomen and legs and discoloration of his skin. The visible mucous membranes were of good color. This man, suffering from some chronic cutaneous affection (probably psoriasis) began taking arsenic in the usual doses ten years ago and has continued its use off and on ever since. The condition of his skin attracts immediate attention. There is a more or less deep brown discoloration over almost the entire body. Differences in degree of discoloration are presented by the skin in various localities. The skin is of a mottled yellowish-brown color, the mottling being due to small rounded areas of less pigmented, almost white skin, which alternate with similar areas more deeply colored; here and there are little dark almost black mole-like spots. The skin feels natural and is at points a little scaly. The skin of the hands is rough and dry. Over the palms it is diffusely thickened. Numerous small and large dirty-gray warts and callosities from the size of a pinhead to that of a pea, can be seen over the palms and over the dorsal surfaces and between the fingers. Some of them look like ordinary warts, others are smaller and more like little fine local thickenings. The warts look natural. Along the heel,

the outer border of the foot and the area corresponding to the metatarso-phalangeal articulations there is a diffuse thickening. Over these parts and extending a little way up the posterior aspect of the heels, there are numerous yellowish horny excrescences of all sizes, discrete and confluent. From the anterior surface of right shoulder there projected a yellowish-brown, lobulated round wart, which microscopically showed the structure of a papilloma. Sections of affected skin demonstrated that the corium was the seat of the discoloration, the pigment being distributed almost exclusively about the blood-vessels, most abundantly about the basilar layer of capillaries. It lies heaped up in brown little granules forming fine lines, or more frequently very dark ovoid and spindle-shaped groups of about the size of a connective-tissue cell. On many of these collections of pigment, nuclei are visible, so that their cellular character is undoubted.

Chemically neither arsenic nor iron could be demonstrated in the pigment.

The author then considers historically the association of melanoderma and keratosis with arsenical intoxication and comes to the conclusion that the occurrence of these dermatoses is not to be viewed as the result of a medical error in its administration, but a prolonged treatment with arsenic is only to be used when a definite indication is present, and always under medical supervision.

Cutaneous Manifestations in Diabetes Mellitus.—S. SHERWELL, (*Journ. Am. Med. Assn.*, 1900, p. 676).

A brief account of skin affections associated with the presence of sugar in the urine. The author considers that "blastomycetic dermatitis" may have a possible connection with the glycosuric state of the organism and urges the investigation of this interesting suggestion.

Clinical Observations Regarding the Curative Value of Iodipin.—RICHARD FISHEL (*Pick's Clinic*) (*Arch. f. Derm. und Syph.*, 53, 1900, p. 49).

Iodipin is directly absorbed and gives up its iodine only gradually not producing iodism even after a protracted use.

It was used externally, internally and hypodermically with satisfactory results.

The author's observations deal with the internal and hypodermic use of the 10 per cent. and 25 per cent. sol. of iodipin in doses of 3-9 Gr. internally and of 5-40 gr. hypodermically. From his observations he draws the conclusions that when KI cannot be administered, the hypodermatic use of iodipin is to be recommended. Regarding its other advantages over other iodine preparations, more observations are necessary to enable us to draw conclusions.

Vaccination Eruptions.—JACOB SOBEL, M.D. (*The Med. News*, vol. 77, 1900, p. 199).

The author considers in his article generalized eruptions occurring after vaccination. The post-vaccinal lesions are characterized by their multiformity, embracing all types from the erythematous to the bullous and hemorrhagic. The eruption generally appears between the ninth and fourteenth days after the vaccination. In some instances it occurred as early as the fifth day, in others as late as five weeks.

Very close observation is necessary to arrive at a correct diagnosis and to exclude the presence of varicella and morbilli. Conjoint eruptions as erythema and papulo-vesicles, scarlatiniform erythema and minute vesicles, urticaria and erythema multiforme, have been seen in the same patient.

A Contribution to the Histopathology of Epidermolysis Bullosa (Hereditaria).—GEORGE T. ELLIOTT, M.D. (*New York Med. Jour.*, vol. 71, 1900, p. 585).

The basis of this article is a case, which the author observed for several years. Not a suggestion of heredity could be found on any side of the patient's parents—the disease originated in him and was not transmitted to him.

The clinical history of this case presents a typical picture of epidermolysis bullosa. The characteristic lesions occurred in no way except from irritation applied to the skin; they were unaccompanied by any sensory or other subjective symptoms; the predisposition was not influenced by the state of his general health.

After a brief consideration of the special clinical features which enabled the author to differentiate from other bullous skin affections, the histological features of the disease are presented in such an attractive and convincing way, accompanied by such masterful drawings and photomicrographs, that the reader is led to accept the statement of the author, that the disease is rightly regarded as an example of epidermolysis bullosa on account of histological changes found by the author constantly present in the skin, changes which suggest the anatomical formation of the bullous lesions in the disease and which may possibly allow a theoretical opinion to be formed in regard to their existence and development.

Portions of objectively normal skin, unirritated in any way, and other specimens of skin after an area had been subjected to mechanical irritation were obtained, however, in absolute alcohol, passed through ether, thin and thick celloidin and stained with various methods. The best and simplest of all was the polychrome, glycerine-ether method.

The histological changes were not occasional, but were found in every section, no matter from what part of the body it was taken, varying only in degree, accordingly as they were obtained from pieces excised shortly after irritation or from fully developed bullæ of some duration. In the former, no fibrin was obtained (Weigert's method), but there were only pale granular *débris*, degenerated epithelial cells and no leucocytes.

In a bulla twelve hours old, fibrin threads were present, also granular *débris* and a few multinuclear leucocytes. No fibrin was detected in sections made from the skin apparently normal prior to excision; the corium was apparently normal, only the blood vessels in the papillary and sub-papillary portions of the cutis were hyperplastic and their coats thickened.

According to the author these changes show that a degenerative process occurred in certain portions of the epidermis, resulting in molecular death of the nucleus and of the protoplasm of the cell body. This was evidenced by the cells attacked gradually ceasing to respond to staining fluids to which in life they *did* respond, and becoming transformed into an aggregation of faintly staining granular *débris* and finally into a colorless, formless mass possessing neither outline nor contour nor resemblance in any part to either nucleus or cell body.

The maximum intensity of the process was shown in the interpapillary prolongations, sometimes all their cells being in part or totally destroyed.

The author regards epidermolysis bullosa as a cutaneous condition, and not as a disease. The individual is born with a congenital irritability of the vascular supply of the skin, which responds to every irritation to which it is subjected, no matter how slight it may be.

This acquired or hereditary exaggerated irritability is the positive feature in the existence of the process and the inflammatory changes are only secondary.

GENITO-URINARY DISEASES.

Bacteriology of Gonococcus Infections.—By A. W. ELTING, M.D. (*Albany Med. Journ.* March, 1900, p. 144).

Elting describes the gonococcus, giving the history of its discovery, and the subsequent literature of the subject, especially with reference to its behavior under various methods of culture, and its resistance to the action of antiseptics.

For its best development, a slightly alkaline medium is demanded, 35° to 37° C. is the most favorable temperature, while a temperature of 39° or 40° C. causes the gonococcus to die in a few hours. The silver salts have a more marked bactericidal effect upon it than the ordinary antiseptics, to most of which it is very susceptible. Urine from patients who have taken copaiba, santal oil or sodium salicylate has no bactericidal action upon the germ.

In animals, attempts to produce gonorrhea by inoculation of gonococci into the urethra, have always failed, though peritonitis and marked lesions of the central nervous system have been produced experimentally by the introduction of the gonococci or its toxin.

The normal urethra contains bacteria, which are more numerous about the meatus than further back, but gonococci are never found among the normal urethral flora.

The article concludes with a long discussion of the pathology of urethritis, and the various complications and extensions of the inflammation to other parts of the body, and ends thus: "Gonorrhea is a specific infectious disease, due to a single micro-organism, the gonococcus. Through extension of the gonorrheal infection by continuity, contiguity or metastasis a great variety of complications may occur in association with which the gonococcus can be demonstrated."

A. L. W.

Stone in the Bladder and Lithotomy.—By F. PASCHAL, M.D. (*Texas Med. Journ.*, 1900, p. 603).

Under this title Paschal discusses the subject of stone in the bladder and the various operations for its removal. In summing up he says:

"First, that each operation has its indications, and must be chosen to meet the merits of the case.

"Second, that litholapaxy gives the lowest mortality, but very hard and large stones, and stones with hard, foreign bodies in them as a nucleus, are not suited for this operation.

"Third, that in all stone cases there is a chronic cystitis, and it is desirable to give the bladder rest; litholapaxy only does this by removing the stones, whereas there is no better treatment in many cases of cystitis than by opening the bladder and thereby giving it rest.

"Fourth, in unskilled hands litholapaxy is not so safe as the cutting operation.

"Fifth, the perineal gives a smaller death-rate and the dangers attending it are no greater than in the suprapubic operation.

"Sixth, the suprapubic is best suited for cases of very large stones, in encysted stones, and in old men with prostatic tumors or enlargements. It is unsuited for children.

"Seventh, a well-performed lateral operation leaves little to be desired; is no more difficult of execution and is suited to cases of all ages.

"Eighth, the combined suprapubic and perineal operations may be done with perfect safety.

"Ninth, perineal lithotomy is not a well accepted operation. It is frequently done, but has no particular advantages over the other operations.

"Tenth, the recurrence of stone after its removal sometimes follows all the different operations, and, perhaps, with no greater frequency in one than in another. They more frequently recur after the age of forty, in old men, in chronic cystitis, with enlarged prostates, and in sacculated bladders. Hence the cause that gives rise to the formation of stones is of the first importance and should be sought."

He concludes by saying, "I am willing to continue the lateral operation, having had two deaths in forty-three cases—and they were men, one sixty and one eighty years old. It should also be remembered that these operations were done in the very worst surroundings imaginable, and often nothing but an undressed sheepskin served as a bed."

A. L. W.

The Evidences of Prostatic Atrophy after Castration.—By E. L. KEYES, JR., M.D. (*Med. Rec.*, vol. 58, 1900, p. 81).

In an able article the author gives a résumé of the history of castration as a surgical remedy in hypertrophy of the prostate, including the report of a case of his own in which after two years had elapsed following the operation no improvement whatever in the patient's condition had taken place.

A suprapubic cystotomy was then performed and two large tumors enucleated which showed absolutely no evidence of atrophy.

The author sums up as follows:

1. Experiments, whether on man or the lower animals, relating to the normal prostate do not of necessity apply to the enlarged prostate.
2. I know of no direct pathological evidence that castration has ever caused atrophy of a hypertrophied prostate.
3. There is direct pathological evidence that in a few cases castration has failed to cause atrophy of the hypertrophied prostate.
4. The majority of cases reported thus far have been labelled "cured" or "improved" so soon after operation that many of them are doubtless instances of local depletion.
5. Clinical evidence of this is afforded by relapses occurring months after the operation.
6. Of the permanent cures some may well be instances of permanent advantage derived from reduced congestion.
7. The clinical evidence as to the actual atrophy of the prostate after castration lacks, as yet, its scientific confirmation, and has failed thus far to prove its title to the surgeon's credence.



ILLUSTRATING DR. FULLER'S ARTICLE ON ANTERO-POSTERIOR
SUBDIVISION OF THE BLADDER.

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ANTERO-POSTERIOR SUB-DIVISION OF THE BLADDER; AN IMPORTANT ANOMALY.¹

BY EUGENE FULLER, M.D.,

Professor of Venereal and Genito-Urinary Surgery at the N. Y. Post-Graduate Medical School; Visiting Genito-Urinary Surgeon to the City Hospital, etc., etc.

ASIDE from exstrophy and patency of the urachus, defects directly dependent on arrests in fetal development, anomalies of the bladder are infrequent. Lateral sub-division, caused by a complete or partial median partition, has been reported on a number of occasions. In such instances one may also expect the urethra to be divided, each vesical sub-division being supplied with a separate canal and a single ureteral opening. On a very few occasions, where more than two ureters have existed, a similar separate vesical division for each ureteral opening has been observed. Vesical pouches of various descriptions, both congenital and acquired, are of comparative frequency. As far as I am aware, however, the anomaly I am now to describe, an antero-posterior sub-division due to a nearly complete transverse partition, has never heretofore been reported²; and what adds to the completeness of this

¹ Read at the Meeting of the American Association of Genito-Urinary Surgeons, Held at Washington, D. C., May, 1900.

² Since writing this article I have found in *Lehrbuch der Speciellen Pathologischen Anatomie*, J. Orth, the statement that "partial constrictions occur in the middle portions of the bladder whereby the organ may be divided into an upper and lower half." So it probably is that anomalies such as I report have heretofore been observed as the result of post-mortem investigations. The finding of these anomalies has, however, been largely in the nature of a reward for anatomical research, and no one has hitherto observed the clinical symptoms attendant on the malformation or tried to correct it by operation.

E. F.

report are the facts that I have encountered two similar instances, have studied them clinically, and in one of them I have been able to secure the bladder post-mortem.

In both these instances the transverse partition lay anterior to the ureteral openings so that all the urine first entered the posterior vesical chamber. The anterior chambers were small, about an ounce to an ounce and a half in capacity, with rigid walls, while the posterior ones were roomy and distensible, comparing closely in those respects with the natural vesical cavity. In the upper middle portion of each partition was an aperture connecting the two chambers. The first case observed had the larger aperture, which was oval and capable of admitting at once the tips of the fore and second finger. The vertical diameter was the smaller. The distance from the base of the bladder to the lower margin of the aperture was nearly an inch. The distance from the superior margin of the aperture upward to the bladder was very slight. In the second case the aperture was so narrow that it could admit the tip only of the forefinger and was circular in outline. In this instance the complete vesical cavity resembled that of an hour-glass, except that the posterior vesical chamber was much larger than the anterior. In this case also the distance from the base of the bladder to the lower margin of the aperture was very much greater than that from the upper margin of the aperture to the superior wall of the bladder. In both instances the partition was very thick, resembling closely in that respect what would be represented by a double thickness of hypertrophied vesical wall. In fact, it seems to me as if the vesical anomaly I am now describing might be quite closely imitated by taking a normal bladder partially distended and tying about it transversely and just anteriorly to the ureteral orifices a fine stout cord sufficiently tightly to produce a constriction such as has been described. In the second instance the cavity of the anterior chamber was irregularly spanned by numerous fine fleshy columns, which seemed to bear a resemblance to the columnæ carneæ of the heart. The illustration is a careful representation of the second specimen.

When I encountered the first of these anomalies I thought it might be an example of what Guthrie mentioned in his "Urinary and Sexual Anatomy," London, 1843, where a vesical pouch forms behind the firm transverse band of muscular fibers constituting the posterior limit of the trigonum. The condition, however, which Guthrie described evidently does not apply to the condition under consideration, as the following quotation, which constitutes what he had to say on the subject, shows. It is as follows: "Posterior to the base of the triangular space the coats of the bladder are usually thin, although the transverse bands

of muscular fibers are more strongly marked, passing across like strong distinct cords, and sometimes running in an oval direction. The greater thinness of the bladder and the direction of its fibers admit of a hollow being formed at this part in which a stone may lie and remain sometimes undiscovered on sounding for it."

In the title to my paper I have specified the anomaly under consideration as important, my reason being the marked subjective symptoms which it occasioned.

I will next detail the histories of my cases, after which a clinical summary will be given.

CASE I.—A man, 55 years of age, referred to me in February, 1898, by Dr. W. A. Seim of Brooklyn. The patient stated that from boyhood his urination had been frequent and accompanied by an appreciable degree of straining, and that beginning twenty years ago there had been sufficient difficulty in urination to make painful the straining effort necessary for the accomplishment of the act. Latterly on numerous occasions there had been sharp paroxysms of pain in the left loin. The difficulty in urination had gradually increased. On several occasions during the last two years the power to micturate had been so impaired that the urine for periods had passively trickled away. Several unsuccessful attempts had at such times been made to pass a catheter. During the preceding few weeks hematuria had been a marked feature. No antecedent history of gonorrhea was obtainable. On examination I discovered an overdistended bladder. Instrumentation of the urethra, although very gently performed, produced free bleeding from the deep urethra and revealed the presence of stricture in that part. The patient entered the Post-Graduate Hospital. I performed perineal section upon him, broke down the soft deep stricture and emptied the bladder of nearly a quart of retained urine and blood clot. Owing to the foulness of the bladder, its great over-distention and the associated atony, it was impossible for me at that time through the employment simply of the perineal incision to determine the existing intravesical conditions. There was no prostatic obstruction. The stricture which I broke down did not seem to me sufficient to account for the retention. I suspected a vesical neoplasm. As the patient's condition was bad, I did not think it then well to open the bladder suprapubically for the purpose of thorough exploration and immediate radical operation. A perineal vesical tube was inserted and the bladder drained and washed for ten days. At the end of that time, as the patient was very comfortable, the perineal tube was removed. As soon as this was done immediate vesical retention followed. The patient, as the bladder became overdistended, began to strain violently. The development

of such a condition was of course very peculiar, as the drainage tube had left an open sinus the caliber of the forefinger, along which the vesical contents would naturally have flowed as fast as collected in the bladder. On introducing my finger along the perineal incision into the bladder I found its vesical exit wholly blocked by a mass which felt like vesical wall. The patient was again sent to the operating room and the bladder was opened suprapubically. In doing this operation I was especially struck by the extreme thickness and development of the recti muscles which years of straining in connection with urination had evidently produced. On the introduction of my finger into the bladder through the superior incision I discovered the peculiar anomaly which I have described. The coats of the posterior vesical chamber were greatly hypertrophied. The left forefinger introduced through the perineal incision could be made to touch the tip of the right one introduced into the bladder suprapubically. I determined to cut through the vesical partition from the lower margin of the aperture connecting the two chambers down to the vesical floor. As a preliminary, an assistant put his finger into the rectum and maintained steady upward pressure underneath the partition while I introduced through the suprapubic cut a pair of heavy serrated scissors with which the partition was divided down to within a quarter of an inch of the assistant's finger. After dissecting apart the cut edges of the partition as much as possible with the finger introduced suprapubically a large perineal drainage tube was inserted and maintained between the cut edges of the partition. Temporary suprapubic drainage was also established. The patient then made an uneventful recovery and has since been able to pass his urine without difficulty.

CASE II.—A man, 44 years of age, entered my service at the City Hospital in 1899. His history was much the same as that of the preceding case. Since early life he had experienced difficulty in connection with urination and had been forced to strain to accomplish the act. He had had gonorrhea several times, the effects of which had been to leave him with urethral stricture. When first seen by me he was in a state of chronic retention, the overflow passively dribbling away. His general condition was bad and presented evidences of uremia. The urine contained casts and albumen. To relieve his retention the bladder was entered by means of a perineal incision. The finger on being introduced entered the anterior vesical chamber, a small cavity capable of holding about an ounce and a half of fluid. In this cavity a phosphatic stone the size of a marble was detected. In exploring the cavity numerous of the thin muscular bands already described, which spanned it, were broken down. The finger-tip finally became engaged in the

aperture of the partition dividing the cavities, and then it was that I recognized the similarity of the case under operation to the one just previously described. Suprapubic cystotomy was immediately performed and the posterior vesical chamber opened. In making this opening the great hypertrophy of the recti muscles was evident as in the first case. The walls of the posterior vesical chamber were also greatly hypertrophied. The dividing partition was cut through and drainage established just as already described in the preceding case. The kidneys, however, refused in this instance to perform their function, and death occurred from uremia in the course of ten days. I have to thank my house officer, Dr. Klotz, for securing the bladder.

The marked clinical feature in these two cases was the slowly increasing difficulty in connection with urination, which commenced in early life and finally ended in retention. This increasing difficulty had been so gradual that a maximum amount of compensatory hypertrophy had developed in connection with both the vesical and the abdominal walls. Urethral stricture, to be sure, existed in both these cases. The cause for it in the first instance was obscure. It may have resulted from long continued vesical tenesmus. The obstruction it caused did not seem sufficient to account for retention. In the second instance the cause for stricture seemed to lie in the preceding attacks of gonorrhea and perhaps to a certain extent in rough urethral instrumentation. Stricture, however, in both instances appeared to be a late and more or less accidental condition. I think it highly probable, in other words, that retention in the absence of urethral stricture would have finally developed in both these instances after the compensatory muscular hypertrophy had reached its limits. The development of urethral stricture doubtless hastened the retention.

Whether, if the urethra were pervious and normal, it would be possible to definitely diagnosticate this anomaly without resort to an exploratory cystotomy is doubtful. If the cystoscope were used, the anterior chamber, owing to its narrow limits, could probably not be illuminated, and should the end of the instrument happen to slip through the aperture and enter the posterior chamber the rays of light would not fall so as to allow the partition to be distinguished from the normal vesical neck. In using a searcher or like instrument, the fact that its end was arrested soon after passing the vesical neck and yet could not be made to pass on to the fundus would tend, together with a characteristic clinical history, to suggest this condition.

After reading this paper at Washington I was asked if the prostate entered into the formation of the anterior chamber. Although a gross inspection of the specimens showed that it did not, still in order to

silence all possible controversy on the subject I put the specimen in the hands of Dr. Henry T. Brooks for histological examination. His report is as follows: "Microscopical examination of the tissue removed from the walls of the upper and lower cavities of the constricted bladder you left at the laboratory showed the internal surfaces of both cavities to be lined with the same type of epithelium, namely, transitional stratified. The walls of both cavities showed almost straight bands of involuntary muscle with no *signs of glands.*"

CASE OF BROCO'S ERYTHRODERMIE PITYRIASIQUE EN PLAQUES DISSEMINÉES.

BY JAMES C. WHITE, M.D.,

Professor of Dermatology in Harvard University.

IN November, 1899, a patient came to the Skin Clinic of the Massachusetts General Hospital, whose skin presented a condition such as I had never before seen. He was an Irishman in household service, thirty-eight years old, who had been in the United States seventeen years. He was in robust health, and had never had any disease, excepting the cutaneous affection for which he sought relief. His weight was 180 pounds. He was married and the father of six healthy children. So far as he knew, none of his ancestry had had any skin disease. His own skin had been natural until twelve years ago, when the first signs of the present condition were seen. During the winter of that date he noticed red spots of considerable size on his lower legs, which disappeared in the spring. They reappeared each autumn subsequently, invading more and more of the general surface, until three or four years ago, when they had come to occupy their present distribution. Since then he had noticed no extension of the appearances. They had shown themselves every year at the beginning of cold weather, had remained unchanged throughout the winter, and vanished in April. In summer, no trace of the affection had been noticeable. They had never given rise to any subjective symptoms or been accompanied by internal disturbances. He stated that they had always been redder on cold days.

On inspection the following condition was observed: His face and neck, exposed parts (the day being cold), were largely occupied by bright red areas of irregularly circular outline, varying in size from

one-half inch to two inches in diameter. By their confluence some parts of the face presented larger uniform patches.

They were mostly smooth, not at all elevated even at the margin, and were not thicker than the normal skin. On some of the affected parts of the face there was a slight scaliness, such as may be observed on many persons in cold weather. The redness disappeared on pressure, to return immediately. The affected areas showed no pronuniation of the follicular openings, nor any projecting lesions. They seemed to be slightly over-sensitive to superficial contact, but were nowhere anesthetic. He said that he had always had considerable dandruff, but this was a uniform condition of the scalp, which presented no circumscribed or generalized hyperemia. The hair was abundant and natural everywhere, and the nails were in a healthy state.

The front and lateral surfaces of the trunk were thickly occupied by irregularly circular and oval areas, varying from $\frac{1}{2}$ inch to $1\frac{1}{2}$ inches in longest diameter. They were generally discreet, but here and there formed larger patches by confluence. They were all habitually of a light brown color, but might become somewhat reddened on exposure to cold. The brown tint disappeared partially on long and firm pressure. They were mostly free from visible scales (the patient bathed frequently), and presented neither elevation nor infiltration. They were entirely free from subjective manifestations. On the back the patches were less abundant and slightly redder. The front of the thighs presented a few sharply defined light brown patches of similar character to those above described, while the integument of the lower legs was thickly occupied by them, and here they were redder than those above the knees and slightly scaly. The scales, where they existed, were, it may be stated here, exceedingly small and thin, and were noticeable only on close inspection. On the upper arms the patches were few and mostly on the inner surfaces. They were sparse below the elbows, and not present upon the hands. The functions of the skin did not appear to be in any way disordered. All subcutaneous glands appeared to be normal.

The patient states that the spots were not as large the first few years as at present, and that they are noticeably smaller when they first appear each autumn, but very soon attain their full size. He thinks each spot occupies the same position on successive years. He says they never become ring-shaped, but gradually fade out uniformly in the summer. They certainly exhibited no signs of central involution whilst under my observation, a period of five months. The photographs I exhibit were taken February 19, 1900.

What then, was I to call this unusual affection? A recurrence for

twelve successive winters of reddish, brown, smooth or slightly scaly macule, of considerable size, over the whole surface, which disappear in the spring. Let me first exclude from our diagnosis those dermatoses which it in any way resembles.

FIG. 1.



Case I.

It was not any form of psoriasis, although it suggested in configuration and tint the stains presented at times by the vanishing stages of that disease. It lacked the characteristic scales and infiltration.

It was not a so-called seborrhoic eczema, although the face looked a little like it. The hyperemia of the patches elsewhere was not sufficient, the scales were almost universally lacking, their peculiar brownish tint I have never seen in eczema, and there was no infiltration or itching. Moreover, I have never seen such a general distribution of eczema seborrhoicum.

It was not pityriasis rosea. The recurrence and duration of the attacks would exclude it. The large and uniform size of the patches and the lack of scales and lesser hyperemia also.

Pityriasis rubra pilaris scarcely needs mention, its most characteristic features being wholly wanting.

Nor was it a lupus erythematosus of general distribution. The lesions presented none of the pronounced inflammatory qualities, the sharply defined and elevated margins, the peculiar scales and atrophic changes of that disease. The spontaneous and uniform involution and annual recurrence were wholly unlike its course.

Was it any form of symptomatic erythema, such as the prodromal manifestations of leprosy, sarcoma or mycosis fungoides? Had I had opportunity of observing the case in the first years of its existence I should have felt bound to consider this question more seriously, but I think the course of our case would be sufficient ground for excluding these diseases, even were the characters of the lesions more suggestive of them. The early cutaneous changes in leprosy are never protracted for twelve years, certainly as the only symptom of that affection. They would not come and go with such regularity, or remain of such uniform size, or fail to undergo secondary changes. They would also present modifications of sensation, and be associated with marked depreciation of the general system at this date.

I am aware that the erythematous stage of mycosis fungoides has been observed to precede by more than twelve years the development of its other features, and that this condition is sometimes almost the exclusive manifestation up to the fatal termination of the case. Yet in the cases I have observed the lesions of this stage are never of such uniform size and distribution, or remain so small as those in our patient. The hyperemia is much more decided, and the infiltration more marked. There is, however, never the regularity in the occurrence of the cutaneous manifestations as in this case.

I see no evidence to regard it as a toxic or symptomatic indication of any recognized disease. Neither does it fit precisely into the position of any of the many well known forms of the erythemata as described in treatises on dermatology.

In searching the records of our periodical literature I was pleased, therefore, to find the description of a case so almost like my own that I must regard it as the same affection. In 1897 Brocq published in the *Revue Générale de Clinique et de Thérapeutique* an account of a case under the title "Les Erythrodermies Pityriasiques en Plaques Dissemínées. The patient was a woman sixty years old, and the disease had first declared itself at the age of forty-five. The spots, which are compared to those of a leopard, are described as "rouge pâle, plutôt rosé, tirant par endroits un peu sur le bistre, et présentant des rémissions fort nettes pendant l'été, des aggravations en hiver." Their medium diameter varied from two to six centimeters.

The case differs from this I report only in two particulars: The spots did not appear upon the face, and they were covered with small and thin, white, dry scales from two to three millimeters in diameter. This scalliness may seem to be of primary importance in considering the identity of the cases, but it should be remembered that the patches in mine were scaly upon the face and lower legs, and the degree and the universality of the desquamation in the other may well have been an individual feature. Possibly the greater age of the French patient may also account for the difference in this respect. With these exceptions Brocq's description closely fits my case. He cites the cases described by Unna, Santi and Pollitzer under the title *Parakeratosis variegata*¹, as presenting strong marks of resemblance to his own, and as the only ones on record resembling it. I cannot agree with this opinion concerning their relationship, because in the German cases the lesions are described as "flache Papeln und papulöse Flächen." In my own case, certainly, there were no papules or elevations, nor does Brocq make mention of any in his. The comprehensive chapter of Besnier on the erythrodermies does not show knowledge of this form of ours, nor is there any recognition of it in the valuable paper of Dr. J. F. Payne of London, on "Persistent Erythema."²

I have found no earlier account of the affection than Brocq's, so that his title should stand, especially as it is so truly descriptive, although applied to the example I report slight emphasis should be laid upon the term "pityriasique." In a later paper by Brocq, prepared for the coming Congress at Paris, entitled "La Question des Eczemas," he refers to this affection, included in his class *Parakeratoses*, to add that he has never observed in it any eczematization.

A portion of the affected skin was excised and given to Dr. Charles J. White for examination, who furnishes the following report:

¹ *Monatshefte für Prakt. Derm.* Nos. 9 and 10, 1890.

² *British Journal of Dermatology*, May, 1894.

"For histological examination a piece was excised from one of the pigmented areas on the right flank. The skin was hardened in Zenker's fluid, embedded in celloidin, cut in thin sections, and stained with hematoxylin, with hematoxylin and eosin, with eosin and polychrome methylin-blue, by the Weigert method for elastic fibers, and by the Gram-Weigert method for bacteria.

FIG. 2.



Case I. Separation of epidermis is an artefact.

"The stratum corneum is very thin, consisting of only three to four layers of non-nucleated cells, which are separated from each other at frequent intervals and thrown up into wave-like lamellae.

"The stratum licidum is totally lacking, and throughout all the sections examined there is no evidence of any of the cells constituting the granular layer save, possibly, some eleidin granules which were noted

on examining this region with an oil-immersion lens. Separating the stratum corneum from the rete Malphigi is a layer two to three cells in depth. These cells show only the slightest outline, present no nuclear elements, and absorb only the eosin stain very meagerly.

"The rete Malphigi shows various modifications from the normal.

FIG. 3.



Case II.

In places the cells are packed closely together, losing their accustomed polygonal outline and showing no indication of their prickle characteristics while the nuclei are no longer round, but suggest the elongated shape of connective tissue nuclei. In other areas the cells are manifestly separated by an external agent, *i. e.*, edema, for we find the intercellular spaces large, the prickles distinct, and many nuclei faintly

stained. The edematous spaces are most pronounced over the regions of the corium, which show the greatest degree of cell infiltration. The palisade layer of the rete is, to a large extent, wanting, and nowhere is there any evidence of pigment granules. Mitoses are entirely absent.

"The corium presents several interesting features. The papillary layer is more marked than usual in skin from the flank, and the papillæ contain only the remnants of elastic fibers. Scattered through the papillæ and especially in the region corresponding to the distribution of the superficial horizontal vessels, we find an infiltration of small cells with round, deeply staining nuclei and hardly perceptible cell protoplasm, *i. e.*, lymphocytes. Throughout the corium, wherever a capillary twig appears, these small round cells are in evidence, and deep down we find these small cells surrounding the hair shaft. As a great rarity we find amid the lymphoid elements an occasional mast-cell, but never any plasma cells. The elastic fibers are rather diminished immediately below the papillæ, but deeper in the corium they assume their normal proportion.

"The connective-tissue cells show a noteworthy diminution in their nuclei, and in places the fibers are somewhat separated. The cells of the sebaceous glands exhibit this same disappearance of nuclei. No bacteria were found in any part of the skin."

Following the well recognized law of the simultaneous occurrence of rare diseases, another case strongly resembling the above was observed by Dr. Charles J. White about the same time. He offers the accompanying account of it:

CASE II.—Samuel E., age twenty-six years, was born in New York of German parents who came to this country when quite young. Of his father the patient knows but little, as he abandoned his son when his wife died. The mother died of cancer of the stomach at the age of forty-six years. The patient says that his mother always had dandruff. The patient himself had chicken-pox and measles when a boy, but states that he never had gonorrhea or other venereal disease.

The first indication of the present affection was noted two years ago during summer, when the patient was in the habit of bathing out-of-doors. He says that the disease could have been present before, but he had never noticed it, as he always bathed by artificial light during the colder months. When first noticed the eruption existed as numerous small macules about the size of a pea. At intervals these lesions itched, especially at night. The spots gradually and very slowly increased in size until his first visit to the Massachusetts General Hospital in November, 1899. The lesions were always slightly scaly, and on scratching them lightly, many dry, small, white, but not glistening

scales would fall. For two years the patient had noted dandruff in the scalp, accompanied by some pruritus.

A careful examination of the patient made during November, 1899, revealed the following conditions: The man is connected with a fire-engine company, and of course subject to all the exposures and uncertainties of this trying life. He is exceedingly well developed and complains of no physical ailment apart from the cutaneous affection under discussion. The scalp is full of dry, whitish scales, and the hair has begun to fall. The face is free from any disturbance and presents a good color. The teeth are exceptionally well formed, white and strong. From the clavicles to the pubes in front and from the spine of the scapula to the nates behind we find the chief seat of the disease. The lesions consist of erythematous areas of irregular but sharply defined outlines, varying in diameter from one to six inches. They are covered with very fine rather adherent, grayish-white scales which leave no bleeding points when forcibly removed. To the sight, but not to the touch, there is in some of the areas a possible suggestion of papulation and in other lesions we note an accentuation of the cleavage of the skin which increases proportionately with the desquamation. The lesions occur most abundantly over the chest and abdomen and their color varies from a delicate pink to *café au lait*. The latter areas suggest a possible pityriasis versicolor, but microscopical examination of the scales fails to reveal the microsporon furfur or any other vegetable parasite.

On the right flank there is a peculiar condition consisting of an island of apparently normal skin in the center of a large area of disease. The patient says that this region has remained entirely free from the disturbances of the surrounding skin. On the upper arms and on the thighs there are a few furfuraceous, erythematous, roundish lesions similar to those on the trunk, but of considerably smaller size. The extensor surfaces of these parts of the body are peculiarly free from any keratosis about the hair follicles, and the normal skin is very fair and smooth. On the anterior aspect of the legs we find a somewhat different condition. Here are two or three elongated, dull red plaques about one-half inch in length, of slight infiltration and covered with large, greasy, yellowish scales—a condition closely resembling seborrhoic eczema. The nails have remained entirely unaffected throughout the course of the disease.

The patient was given an ointment of salicylic acid, sulphur and zinc oxide and a wash of carbolic acid, zinc oxide and lime water for the body, and an ointment of salicylic acid and sulphur, and a wash of pilocarp. nit., quin., canth., caps. for the scalp. It was soon seen

that even mild sulphur ointments were too irritating for the body and caused a distinct inflammation, so that the subsequent treatment has been the very mildest. The treatment of the scalp, however, has proved more successful and the evidences of seborrhea soon decreased. During February the patient was given liq. pot. arsenit., but has never been able to take more than three drops three times a day.

Throughout the winter the patient has returned every fortnight for treatment, and during this time some lesions have increased slightly in size, while others have remained stationary. The production of scales has been, however, greatly reduced. The patient has not noted that the ingestion of highly seasoned food has increased the hyperemia of the lesions, but has observed that fatigue produces an increase of pruritus and desquamation, and it is striking that during the last two weeks, when the patient has been greatly tired by attendance at many fires, some of the areas have grown larger.

The specimen for examination from the second case was also excised from the right flank and was hardened and stained by the methods employed in the first case.

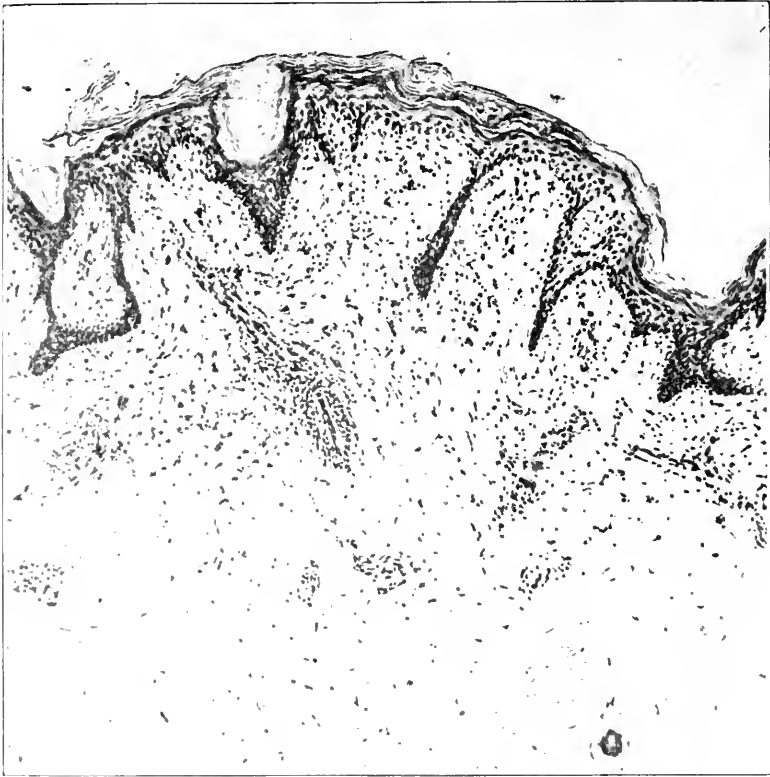
Examining the epidermis first, we find that the horny layer consists of from one to seventeen lamellæ. We note that the thicker the layer the more waving and separated are the individual lamellæ, which are well emphasized by the picro-carmin stain. In places there are fairly wide follicular depressions filled with horny detritus and some keratinous cells which possibly contain faintly staining nuclei, but no bacteria. The stratum granulosum is composed, for the most part, of cells containing no eleidin granules, whose outlines are distinct, and whose nuclei are practically wanting. In places, however, horizontally elongated nuclei appear with no granules surrounding them, and again we find, on examining carefully the areas immediately below the follicular openings, a few cells containing granules which receive only the Gram-Weigert and the polychrome blue stains. There is no evidence of any stratum lucidum.

The stratum spinosum contains many abnormalities. It is composed, for the most part, of a few layers of pathological cells which at frequent intervals extend in narrow strips for some distance downward into the corium. The palisade layer is almost totally absent, and in this space we find frequent mild invasions of lymphocytes. The cells of the rete, as a whole, stain poorly, and in places show clear interspaces. As a rule, the nuclei are not round, but exhibit a tendency toward vertical elongation and flattening, and in places are reduced to a mere crescent (vacuolation). On approaching the more superficial side of the rete we find still more marked changes, and note cells

whose outlines and nuclei are mere shadows, while in other places we find cells whose protoplasm is almost wholly occupied with large round nuclei.

The corium also presents interesting changes. As has been stated above, the numerous long but narrow epidermal down-growths divide the upper part of the derma into broad papillæ which are filled with

FIG. 4.



Case II.

a general but delicate invasion of lymphocytes, extending to the superficial horizontal layer of vessels. Wherever a vessel appears the cells become much more abundant and form a compact surrounding envelope. In these cell masses we find an occasional mast cell, but no evidence of any plasma cell. In the papillæ we find perhaps a normal amount of elastic tissue, but the fibrillæ are reduced to the very finest dimensions. Below the papillary layer the elastic tissue becomes

more abundant, but never appears in large bundles. The connective tissue seems less dense than usual, and appears as waving fibers more or less separated, suggesting the presence of edema, and the cells exhibit fewer nuclei than usual. About the hair follicles, however, the connective tissue assumes a denser aspect and the nuclei are much more numerous. Wherever a blood vessel appears we find it surrounded by lymphocytes, and finally we note an entire absence of sweat and sebaceous glands and of bacteria.

Considering these two cases from a histological point of view, I think that we must be struck with their many similarities—the absence of the stratum lucidum; the absence or malformations of the granular layer; the evidences in the rete of edema with its consequent separation of cells; their decreased power of color absorption; their distortion and final atrophy and the absence of the palisade layer; an extravasation of cells of practically one variety throughout the upper layers of the corium and the further evidences of edema evinced by the separation of the connective-tissue fibers and the lessened number of their nuclei, and by the decrease in the number of elastic tissue fibrillæ. The most important divergencies of the two specimens lie in the degree of inflammation. The first is an older process, where the cell extravasation is less accentuated and the production of horny matter less pronounced.

The treatment in my own case consisted in the administration of Fowler's solution for three months and the use of an ointment of salicylic acid and sulphur upon selected areas. The external remedy was suspended after a few weeks, as it seemed to produce no change in the parts treated. Whether the arsenic was of any service is doubtful, for the degree of fading of the patches at the latest inspection, April 15, was no greater than has been observed by the patient in former years at that date.

The two cases bore a strong resemblance to each other in the general appearances, but they were far from identical. The second one covered much larger individual areas uniformly, and these were more scaly, as in Brocq's case. It lacked the peculiar brownish tint of the first, and the patches did not vary to any marked extent, according to the season. It might be regarded as a half-way connecting link between Case I. and an eczema seborrhoicum.

CASE III.—Girl, age 9. Trunk presents chiefly on lateral surfaces uniform circular areas varying in size from $\frac{1}{2}$ to 3 inches in diameter, and annular forms 2 to 3 inches across, together forming by confluence groups of irregular outline 6 or more inches in extent. The af-

fectured skin is red, slightly scaly, very slightly elevated, and sharply circumscribed. It itches and burns slightly. The affection has been gradually developing since last September.

There is much to be learned about such pityriasic and erythematous dermatoses before their pathology and relations can be positively defined. I offer these reports as a contribution to that end.

DERMATITIS VESICO-BULLOSA ET GANGRENOSA MUTILANS. REPORT OF TWO CASES HAVING A HYS-TERIO-TRAUMATIC ORIGIN.

BY GROVER WILLIAM WENDE, M.D.,

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IT is hardly to be expected that any dermatologist, however acute his faculties may have become by means of professional experience, will be able readily to discriminate between the boundless shades of difference existing in the pathological phenomena exhibited by the various so-called neuroses of the skin. If we could but comprehend all the obscure etiological factors at work in the group of maladies to which the two cases under consideration belong, we might hope that the time may yet come when our treatment of them shall be intelligent, certain and decisive. Until then, all our treatment must be more or less tentative.

These two cases are not necessarily unique. Similar ones will be found recorded by various authorities in the medical journals of all countries. Parallel in relationship, with a common mystery in the matter of their origin, they, nevertheless, frequently differ from each other in many of their essential points—asserting, however, in the main, the recognized symptoms of hysteria.

Many writers, indeed, have assumed that these mysterious manifestations were sufficiently marked and definite to entitle them to classification among cutaneous diseases. Therefore, in their investigations, they have adopted all manner of terms in order to render their delineation, in all the varying phrases, as complete as possible. The following nomenclature presents the views propounded by various writers in explaining the rationale of this particular disease. Without conceding the logical propriety of adopting so many convertible terms, in the attempt to secure a satisfactory appellation, it may be said that it embraces the following titles:

1. Spontaneous gangrene.
2. Hysterical gangrene.
3. *Zoster atypicus gangrenosus et hystericus*.
4. *Dermatitis gangrenosa*.
5. Multiple neurotic gangrene.
6. *Dermatitis vesico-bullosa et gangrenosa mutilans*.

The last term was employed by Dühring in the description of a case the report of which appears in the *International Atlas of Rare Skin Diseases*, on the 22nd of March, 1899. This term may be regarded as singularly felicitous, since it amounts to an exhaustive description of this specific and peculiar form of gangrene.

The two cases of my own are strikingly analogous to those already reported. I begin with that of Miss E. C., aged 17, a healthy looking girl of nervous, sanguine temperament, who was reared in the country. Her father, a farmer, died from cardiac disease at the age of 30. Her mother is 41 years old and enjoys excellent health. There are no sisters and but one brother, the latter 19 years old and unusually tall and well developed. In fact, all her relatives, both near and remote, are healthy and vigorous. Measles and whooping-cough constituted her only infantile diseases. Her menstruation was established at the age of 13, accompanied by severe headaches which diminished in frequency as she advanced in years. However, she continues to complain of headache as a usual concomitant of menstruation. Prior to this peculiar manifestation of the skin, her weight was 140 pounds and her physical condition perfect, barring the paroxysmal headaches. In May, 1899, she applied pure carbolic acid to a wart situated on the back of the right hand. On the following morning the wart was surrounded by a red, flamed zone, associated with a burning sensation and considerable pain. This crubescence gradually extended until the entire dorsal surface was involved—then, after having persisted for three days, it slowly disappeared. Immediately succeeding this process, which was apparently caused by the application of the acid, there became visible upon the flexor surface of the forearm a well-defined red area, two inches or more in diameter and studded with small blisters. Three similar patches co-existed, two in close proximity to the elbow-joint and one upon the face. At the end of a week these manifestations simultaneously faded, leaving only pigmented skin; then there was suddenly perceptible a group of vesicles over the second joint of the little finger, which rapidly changed into a superficial gangrenous process, accompanied by darting, throbbing pains. The gangrene rapidly spread until the entire digit was tainted; and, at the expiration of a month, the process of mortification was complete and amputation became necessary. After

the lapse of another week, it was observed that the adjacent phalanx had become involved, upon its flexor surface, in two distinct localities. The process was so acute and the destruction of tissues so rapid that, after the lapse of a single week, the patient was again compelled to submit to the knife. Subsequent to each operation the flaps united by first intention. The patient now returned to her home in the

FIG. 1.



country. It turned out, however, that her relief was but temporary—indeed there was only an abatement of the symptoms, for the vesicles returned upon the area and at the pigmented portions previously affected, except the one upon the face. The number of lesions was now augmented by two, and in a portion of them the vesicles coalesced and formed bullæ.

This, briefly, is the history of the patient as I learned it from Dr. Randall, the attending physician, on August 9, 1899, upon which date she first consulted me. I found upon examination that she had lost 20 pounds, her present weight being 120 pounds, which was still in excess for one so young. She was unusually well-proportioned and her general appearance was robust. The wound resulting from the last operation was practically healed. There was no evidence of mischief in the area previously involved other than a large lesion upon the flexor surface of the forearm below the elbow-joint, and a second manifestation, equal in size, upon the extensor surface just above the wrist. The upper lesion was an irregular, well-defined, pigmented

tract, measuring about three inches in length and one and three-quarter inches in width, the lower half acutely inflamed and covered with vesicles, bullæ, and crusts. The lower one, measuring about three inches in length and two in width, appeared as if it might have been produced by the application of a caustic—it was a composite likeness made up of numerous broken and unbroken vesicles and bullæ, many small, parchment-like plaques and a number of definite necrotic centers.

While tactile sensibility was well marked on the trunk, legs, and unaffected arm, it was much increased in the diseased member. Upon pressure, no matter how slight, the patient was always able to indicate correctly the precise locality where it was made. She also recognized without difficulty the difference between a hot and a cold tube whenever brought in contact with the skin. The surface temperature in the affected arm was from three to five degrees higher than in any other portion of the body. The introduction of a feather into the throat induced no appreciable reflex. The sensibility of the conjunctiva was also greatly diminished, but plainly demonstrated a partial anesthesia. The knee-jerks were increased—those in the right knee outnumbering those in the left. There was no ankle-clonus. The plantar reflex was present but not marked. The movements of the various joints in the sound arm were but slightly modified, while those in the affected arm were much exaggerated. On tapping, its triceps showed a marked muscular contraction, and all its reflexes were largely augmented. Tapping and pressure caused more or less pain—although the pain consequent upon each had somewhat decreased since the incipency of the affection. After a lapse of about ten days the necrotic masses began to slough and loosen and, finally, dropped off leaving in their stead numerous superficial pits and depressions tinted with a darkish blue. In the localities where the vesicles and bullæ had formed, the skin underwent resolution without other impairment than a slight pigmentation.

The patient gradually improved until September, 1899, when she experienced a peculiar subjective sensation, characterized by jerks and stings extending from shoulder to wrist. The arm was more or less swollen. The suffering was keen, but its acuteness was suddenly modified by the re-appearance of the disease in those parts of the arm previously affected, consisting principally, of numerous small gangrenous lesions seated about the hair-follicles—a rule which, according to my observation, prevails in the inceptive stage of each gangrenous lesion. Many of these lesions possessed a depressed center, or rapidly coalesced, forming a large parchment-like plaques which, after several days, began to slough and were cast off. During the outbreak there

existed a well-marked anesthesia in and about the parts affected. There was also a general and more or less uniform tumefaction of the entire arm, the difference in circumference when compared with the well member being about one inch in excess. From this time the picture began to change in character; the vesicles, bullæ and small necrotic spots gradually healed and grew less in number; the dermatitis subsided; the large parchment-like films disintegrated, sloughed and forsook their mooring, leaving behind them the aspect of a granulating ulceration. On November 26th, the patient suddenly experienced severe and darting pains which penetrated the right shoulder and which, after a duration of 24 hours, were superseded by lancinating pangs in the upper portion of the chest where, almost instantly, appeared an opalescent plaque, about the size of a fifty-cent piece. A few days later, similar plaques were discovered lying outside of, but in close proximity to, the outline of the one just described. These finally merged into one, forming an irregular field eight inches long and four inches wide. This particular pathological alteration differed from the former ones in that there were no vesicles and bullæ visible; but it was analogous in that the line of demarcation between the sound and diseased skin was abrupt, and that the complexion of the latter, which, at the onset, was a peculiar pearly white, beginning at the center of the field, slowly and imperceptibly changed, first to a bottle-green, then to a chocolate and finally to a mere murky tinge. If, for some reason or other the process of transformation was irregular, it would then be broken, and present all the colors of the rainbow. Subsequent to the metamorphosis in color, which, in this instance, required two weeks to perfect, the new phase of suppurating, sloughing and casting off, which invariably began at the border and ended in the center, finally produced an ulceration of a violaceous hue and rich in granulation. The edges of the ulcer were irregular in outline and jagged in appearance. The loss of substance resulting from the necrosis was soon remedied by the production of new connective tissue, terminating in a hypertrophic scar—illustrated in photograph No. 2. This photograph shows, besides the scar, a number of recently-formed lesions in close relation to it, as well as new spots in exact juxtaposition upon the opposite side of the body. The disease, until very recently, was limited to the right side, when the new spots appeared as stated.

On the 25th of January, 1900, the patient was suddenly seized with a violent headache, chilliness, and ringing in the ears, attended by a brief loss of consciousness. The same symptoms recurred daily until February 1st, when she suffered from an unusually severe attack, accompanied by terrible shooting pains along the spine and down the

injured arm. In addition, there was, in the upper portion of the back, a burning sensation of the skin which suddenly culminated in the formation of another characteristic lesion as large as a twenty-five cent piece. This was surrounded by an anesthetic area and, at the end of thirty-six hours, took on the changed color which may be discovered in photograph No. 3. Two more lesions soon formed in the immediate

FIG. 2.



neighborhood—these eventually combined with the first, resulting in an oblong patch fully six inches in length, which became subject to the same characteristic alterations that appeared in the lesion located upon the chest. The peculiar attacks already indicated became more and more frequent, the patient having experienced as many as six in a single day. With each outbreak, the subjective symptoms were, in an insidious manner, enhanced in quality as the disease progressed from the finger to the back.

A specimen of the patient's blood submitted for examination to Dr. Albert Woehnert gave the following results:

Red corpuscles.....	4,648,000
Leucocytes	9,600
Hemoglobin	70 per cent.

1. That the specific gravity of the blood was 1056, which agreed with the reduced hemoglobin.

2. That the red corpuscles were slightly decreased in number, that, in color, they were somewhat paler than normal and that a slight divergence was discovered as to size and shape.

FIG. 3.



3. That the white corpuscles were immediately increased and that the polymorphonuclear neutrophils were proportionately augmented.

4. That the lymphocytes were notably reduced.

Hence his deduction that the blood shows a mild secondary anemia, with some increase in the polymorphonuclear neutrophils.

The urine analysis, made by Dr. Thomas Carpenter, Assistant Bacteriologist, Department of Health, Buffalo, N. Y., pending an attack, is here reported:

Specific gravity.....	1028
Total solids.....	6.50

Urophin and indican increased; albumen, a slight trace; sugar, none.

Sediment in excess, largely consisting of calci oxalate, mucous and pavement-cells of considerable size.

The various examinations of the urine made by myself, prior and subsequent to the one made by Dr. Carpenter, exhibited only insignificant variations—indeed the composition and pathological deviation were essentially identical.

This report may justly be regarded as incomplete for the reason that it fails to include microscopical and bacteriological examinations. The patient, however, could not be prevailed upon to furnish the necessary material for the same.

In offering an explanation of the phenomenal occurrences involved in this complaint, we are necessarily compelled to inquire into the intimate relationship existing between the nervous and integumentary systems. No fact in pathology is more fully established than that of the close association between certain skin affections and the nervous centers, or nerves. Whether this difficulty of nutrition comes by way of the trophic, or vasomotor, or even the sympathetic system, remains uncertain; yet, to my own mind, it is quite clear that necrosis of the skin is attributable to the derangement of the nervous centers located in some distant part. The case in hand is of special interest for the reason that, in the course of its development, it simulates neuritis ascendens. Just what the application of carbolic acid had to do with its genesis it is difficult to ascertain; however, it is an established fact, derived from the many similar cases which have been reported having these same abnormal changes, that they seem to have dated from traumatism and to have been associated with the employment of some caustic. Thus far, but little attention has been paid to the traumatic factor as being etiological in character, or existing as a malady. This susceptibility cannot be considered common so long as a number of individuals subjected to the same kind of traumatism, do not experience the same effects. Yet this peculiarity, which is morbid in the extreme, is only exhibited by persons possessing a constitutional history almost ridiculously connatural. In nearly every instance the age, predisposition, temperament, symptoms and signs indicative of this type of morbid action were most noticeable in young and hysterical girls.

The exceptions on record, as I recall them, are the two cases of Rothmann¹ and Hallopeau², occurring in old women, and the cases in men given by Jaquet³, Bayet⁴ and Joseph⁵. In the men, hysteria was said to have been absent, probably by reason of their superior self-governing power. Regarding the etiological factor of the cases reported by Bayet and Joseph they are said to be the result of

a burn caused by sulphuric acid, while the case reported by Jacquet is said to have been due to injuries received in consequence of the explosion of a boiler. From the intimate connection existing in these cases between traumatism and hysteria, culminating in gangrene, many writers have been induced to consider them as identical and to classify them as a single type. In the production of all such cases, the nervous system unquestionably plays an important part. When we are able thoroughly to understand the relationship existing between brain, spinal cord and skin, then, and not until then, shall we be prepared to comprehend the mysterious association of hysteria, traumatism and gangrene. In the subject under consideration, the intense sympathy between the skin and nervous centers, owing to an existing predisposition which influences the processes of nutrition, is seen in the fact that the carbolic acid, acting as an exciting cause, set up a progressing degeneration—first of the peripheral elements of the ulna nerve and afterwards of the median and radial. Later, the internal cutaneous nerve manifested a reflected nerve action, a diseased area appearing above on the upper arm. The anterior and posterior branches of the upper thoracic spinal nerves were the last to be involved. If we consider the aggravated nature of the disease and the peculiarity of the attacks we are forced to conclude that the cerebral symptoms, which were only of temporary duration, were the forerunners of the serious consequences described, and argued a sympathetic nervous state.

The second of the cases now reported is that of Miss M., which came under my notice in September, 1899. She was 18 years of age and, up to her fourteenth year, had enjoyed good health. On the first approach of menstruation she began to suffer from frequent headaches, combined with fatigue, sleeplessness and mental depression in equal ratio with her physical prostration. At night she was restless—she would often awake out of sleep with a sudden start. During the day she was despondent and subject to spells of weeping. Her functions all seemed impaired and her nervous condition was capricious to a degree. Her family history shows that her father died from cardiac disease at the age of 53. Her mother, who is still living, gives evidence of having suffered for the greater portion of her life from frequent attacks of rheumatism and asthma. She has five brothers, two of whom have syphilis, and three sisters, one of whom reveals symptoms of the same hereditary disease. One of the brothers experienced much difficulty as a child in dentition, and subsequently developed strabismus; another died from diphtheria at the age of four. One of the sisters is apparently vigorous, while the other, having the elements of hysteria well devel-

oped in her nature, is frequently affected with a slight mental derangement. In looking over the family history, I was impressed with the fact that, owing to the pernicious habits of its various members, they have individually involved constitutions peculiarly liable to morbid nerve-action. In the present case, it is clear that the gangrenous dermatitis constitutes a typical instance of imperfectly regulated nerve-energy in a hysterical girl, originating in an injury. The patient herself attributes the condition here described to an accident sustained while sleigh-riding, having been thrown from the vehicle and dragged for a considerable distance. The first indication of the mischief appeared upon the nates in the form of a group of vesicles, which, in the course of a few days, became highly inflamed and suppurated. The lesion thus formed was deep and well-defined and gradually assumed such proportions as to cover the greater portion of the right buttock. Finally a marked amelioration of the symptoms was observed and, at the expiration of four months, for which period the patient was confined to her bed, the wound completely healed. She remained comparatively well until the ensuing fall, when she sought employment in a factory. However, her work so affected her nervous organization that the old manifestations speedily returned, possessing the same characteristics and continuing for the same length of time, then disappearing for the space of an entire year. All through this latter interval, no severe mental occupation or physical labor was permitted, it being thought best that whatever would be likely to imperil the physical welfare or comfort of the patient should be avoided. At last, the patient, thinking that she had fully recovered, again engaged in moderate labor, only to discover that the uncongenial idea of work, made practical by the slightest exertion, was more than she could bear—for there promptly followed great mental depression and a speedy re-assertion of the whole trouble. She again resorted to the remedy of rest, only to learn that it failed to afford any lasting improvement; for, again entering upon the experiment of manual labor, the slight sense of relief secured by her year of inaction was immediately replaced by the usual result. The present attack, however, was somewhat milder than its immediate predecessor. It was one year later that she again exhibited the unequivocal evidences of her distressing affliction, that I saw her for the first time. In addition to the symptoms already designated, she suffered from an incontinence of urine, dating from the incipency of the disease, which was especially marked prior to an attack and during the existence of the skin lesion—her garments being continually saturated. Upon examination, I discovered an ulceration in the center of a large area of cicatricial tissue, nearly covering the right buttock. It measured

five inches in anterior-posterior diameter and two inches transversely. The surrounding zone of tissue was from one inch to one and a half inches in width with a violaceous hue. The ulcer itself was covered with a grayish-brown *débris* from which exuded a pronounced purulent discharge; in appearance it was decidedly phagedenic—it was not par-

FIG. 4.



ticularly sensitive to touch. The adjacent cicatricial tissue was hard and tightly drawn. A number of small lesions were also found upon the buttocks and upper portion of the thigh in close proximity to the affected part. These were undoubtedly due to auto-inoculation, the streptococcus being readily discovered.

The appearance of the patient was pallid and her flesh was somewhat

flabby, but, on the whole, she was well nourished, nor did there exist any evidence of organic disease. Analysis showed the urine to be highly colored, having a strong odor and giving evidence of acid reaction, its specific gravity being 1030. The specific gravity of the total solids was 6.9 with the urophin, indican, urea, uric acid, earthy phosphates, alkaline phosphates and sulphates greatly augmented. The chlorides were normal, bile-pigment and sugar were absent and there was only a slight evidence of albumen; the sediment, which was large

FIG. 5.



in amount, consisted principally of amorphous urates, mucus, leucocytes and large pavement-cells, with an occasional erythrocyte. The blood examination showed:

Red corpuscles	4,750,000
Leucocytes	9,000
Hemoglobin	75 per cent.

which demonstrates a secondary anemia of the chlorotic type. The leucocytes were somewhat augmented; the lymphocytes showing 34 per cent., and the eosinophiles presenting 13 per cent., were increased at the expense of the polymorphonuclear cells, which were relatively diminished, and the erythrocytes were only moderately distorted. The increase of the lymphocytes was undoubtedly due to the want of proper nourishment; while the increase of the eosinophiles was the result of

cutaneous irritation. In fact, the absence of sensibility was noted over the entire surface of the body. The failure of nerve-power was further exemplified by the complete anesthesia of the fauces and eyeballs and in the absence of quantitative and qualitative alterations of the muscular responses—however, the abdominal reflexes were found to be active and the knee-jerks only slightly exaggerated.

Sections cut from a piece of tissue taken from the margin of the ulcer, hardened in alcohol and stained with the ordinary nuclear stains, showed the epithelium of the non-ulcerated portion to be normal and the papillæ unchanged, while many localities in the *pars papillaris cornii* gave evidence of cell-infiltration. The hair-follicles either remained intact or were partially or wholly obliterated, while the sebaceous glands were encompassed by an accumulation of round cells. The alterations in subcutaneous structure were comparatively few, merely disclosing a perivascular transudation with a serous exudation. In the ulcerated portion, after the slough had been cast off by inflammation and suppuration, the products of the ulcerated action appeared as a granular débris, resulting from degeneration of the inflammatory cells. This peculiar conglomeration involved almost the whole corium: in fact, towards the center of the pathological process, the whole papillary layer seemed indefinable. The deeper structures revealed little hemorrhages and moderate tissue-infiltration. All evidence of thrombi was wanting. With Unna's modified stain we were unable to detect the presence of elastin. The whole superficial loss of substance showed an abundant infection of septic and pus-forming bacteria, in which the *staphylococcus pyogenes aureus* was the predominating one. In this instance, the staining for specific organisms as suggested by Hartzell⁶, proved to be negative. The process may be briefly described as an intensely inflammatory lesion, characterized by serous exudation, infiltration of tissues with large round cells which tend to form pus, due in all probability to paralysis of the cutaneous nerves controlling the circulation—or to an abnormal action of the so-called trophic nerves which are supposed to preside over the nutrition of the part. In some respects, the conditions in this case agree with those of the one first reported—specially exemplified in the association of traumatism, hysteria and gangrene. Clinically, its appearance is much the same, although its course has been radically different, since the disease limited itself to a single locality, never appearing on any other portion of the body—while in the numerous instances already recorded the lesion was repeated at different points on the corporeal surface. So far as my knowledge extends, the case in hand is the only one ever reported where the recurrence of the lesion was invariably confined to the original spot.

Its rarity, therefore, may be set down as exceptional.

The possibility of a malingerer was naturally anticipated, considering the characteristic surroundings of the patient, coupled with the fact that a return to work invariably induced a fresh outbreak. Yet there was something in the clinical appearance of the ulceration that seemed to demand special study and careful reflection. First, the location would effectually prevent the easy application of a caustic, being out of the reach of vision and beyond the ready ministry of the hand. Second, its symmetry and general appearance could not possibly have resulted from any mechanical agency sufficiently energetic to produce the depth of tissue destroyed and here described.

I was induced to ascertain to what extent auto-suggestion might be responsible for the peculiar aberration connected with the present case by a statement made by Dr. Corlettⁱ in a paper read before the twenty-first annual meeting of this Association, as well as by a suggestion made by Dr. Van Harlingen^s in a more recent communication entitled "Hysterical Neurosis of the Skin." The hypnotic experiment was made at my request by Dr. James W. Putnam, Professor of Nervous Diseases in the University of Buffalo.

Without any preliminary preparation, beyond the suggestions usual in such cases, the patient was easily and quickly hypnotized. She occupied the operating chair in my office, standing in close proximity to a hot-water radiator, which, at this particular moment, happened to be quite cold. Upon the completion of the hypnotic process, Dr. Putnam said to the patient: "We are now in a zero atmosphere; you are to sit upon this radiator, when a redness will immediately appear upon the exact spot previously affected"—the doctor indicating with a pencil the precise locality. The patient promptly obeyed the command thus given, but was scarcely seated when she began to arise. She was under observation for two hours, but no redness or ulceration appeared at the place indicated, although she complained of a dull ache existing at that precise point. I saw her again the following morning, when she informed me that, by reason of intense pain and the extreme heaviness of the leg, which seemed almost unmanageable, she was greatly embarrassed in walking, and reached home with difficulty. She appeared to be ill and complained of severe headache as well as pain in the region of the scar. Upon examination, evidences of the long-continued habit were observed upon the buttocks, at the locality indicated by Dr. Putnam, in a group of minute vesicles, in all numbering about fifteen. On the following day, in lieu of the vesicles, there was plainly visible a depressed necrotic patch, represented in figure No. 5. While the headache and pain just mentioned had materially diminished, she still gave evi-

dence of weakness and fatigue and was extremely irritable. For three or four days thereafter the patch slowly increased, when suppuration commenced, followed by sloughing and casting off and finally by the healing of the wound through cicatrization. It may be said that the attack was milder than any of its predecessors and that the cutaneous sensibility was much lessened. The condition of the conjunctiva conformed with what had been developed in previous attacks. Twenty-four hours subsequent to the hypnotic experiment the anesthesia re-appeared about the diseased part and the general sensibility became as blunted as before.

It is proper to add that owing to the vagueness of our knowledge of the intimate relationship existing between the mind and the body, an experiment of the nature here described may be attended with serious danger. The success attained by others in special cases may encourage practitioners who lack the necessary qualifications to cure disease by means of the subtle influences of hypnotism. In all such cases nerve-power must play an important part, as well in the production of the hypnotic state as in the cure of the malady. My voice is with those who unhesitatingly declare that the practice of hypnotism is, as a rule, to be earnestly deprecated.

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OPISTHOTONUS DUE TO DORSAL SCLEREMA NEONATORUM.¹

BY WILLIAM BROWNING, M.D.,

Prof. of Neurology at the Long Island Hospital.

WE are so accustomed to see the symptom of opisthotonus associated with meningeal trouble that it may be of interest to report a case where the condition was caused by a special cutaneous affection, acting presumably from the outside and in a purely mechanical manner.

The patient was an infant of 17 days, male, white, seen at the Brooklyn Hospital in April of this year. I examined it at the request of Dr. F. H. Stuart in whose service the case occurred. Little was known about the antecedents, though the mother herself appeared to be a healthy woman. It had been a quick instrumental delivery. At first the child showed some facial paralysis on the left, but this disappeared a day or two after birth. Immediately following delivery there had also been much subcutaneous hemorrhage about the right eye; the remains of this are, however, now chiefly noticeable to the lids of the left eye. A day or so after birth, what was thought to be subcutaneous hemorrhage was noticed along each side of the spine, but possibly this may have been the beginning of the later skin affection.

It is a nursing baby. There has been no vomiting. The bowels have kept regular, though the stools are now greenish. The rectal temperature has ranged from 99° to 99.5° F.

The child does not cry very much if let alone. It has a long head, with more occipital overreach than usual even in the new-born. There is no paralysis anywhere and it uses all the extremities freely. The sensation, so far as shown by pinching and gross tests, is good.

In the first days of life no special inclination to any curving of the spine was apparent. But, as nearly as can be made out, the baby has for the last ten days shown a tendency to opisthotonus, *i. e.*, it began about the eighth day of life. It has been progressive in character, gradually becoming more and more marked. At times it is present to an excessive degree—much more than is apparent from the accompanying picture. This is however a mobile condition. Passively the

¹A Paper Read before the Brooklyn Pathological Society.

head can be worked over forwards and the back even curved posteriorly. No marked evidence of pain accompanies this relaxation and reversal of position. The infant can be held face downwards, resting with its belly on the holder's palm, and seems quite as comfortable in that position as in any. There does not appear to be much definite spasm at any time in the nuchal or spinal muscles. But if straightened out and laid on either side, it soon begins to wriggle and work its back more and more into a curve until it is again in a position of extreme opisthotonus. This recurving is accelerated by any palpation or friction of the region of the back.

As is evident from this brief description, there was nothing to indicate the meningeal or central origin of the trouble.

FIG. 1.



The second notable feature of the case was the enormous thickening and folding to great rugae of the skin all across the back from the lumbar to the cervical region. The cutaneous surface over this area was also of a dark purple color, except some whiteness at the bottom of the furrows, due doubtless to the tension of pulling the folds apart. There was no pitting on pressure, the thickening of the skin being of almost boardlike hardness. At the borders of the induration it terminated pretty abruptly. To some extent the observer's fingers could be pushed in at the edges under this pelt and in that way this dorsal cuirass could be slightly lifted up; this was especially the case at the upper margin, about the sixth to seventh cervical vertebra.

The child was seen again the following day with Dr. J. M. Winfield, who is my authority for the correct naming of the skin affection. The trouble had spread some, and was now so extensive as to limit somewhat the degree of opisthotonus (the picture was taken at this time).

The temperature had gone down to 95°, and the patient was in a condition of partial collapse. All this corresponded with the naturally progressive character of the trouble.

This rare skin affection, from its extension and interference with respiration, tends to an early fatal termination. The child was soon removed from the hospital and lost track of. It is not necessary to discuss here the infectious, trophic, nutritive, or other origin of this affection, as the case is reported for its unique clinical features.

Society Transactions.

FOURTH INTERNATIONAL CONGRESS OF DERMATOLOGY AND SYPHILOGRAPHY.

ERNEST BESNIER, *President*.

(From *Annals de Derm. et de Syph.*, t. L., no. 8-6, p. 953, and *Gazette des Hôpitaux*, no. 94, 1900, p. 1007).

Parasitic Origin of Eczema—The clinical side of the eczema problem was not debated at the congress, in spite of Kaposi's insistence that a common understanding of the term is an absolute prerequisite in such a discussion and the inevitable confusion ensued. No one apparently took care to eliminate from the heterogeneous mass formerly called eczema the disorders which have a place to themselves, unless we except Brocq in his preliminary essay: Unna spoke of contagion and epidemics; Hallopeau mentioned the inoculability of washerwomen's dermatitis and was told by Sabouraud that the disease is not an eczema in any sense, but one that may be complicated by true eczema. It may be worth while to recall Walker's definition which was not a jest, "any disease of which we do not know the origin." The reporters were MM. Unna, Galloway, Brocq and Veillon, and Jadassohn.

UNNA.—In consequence of Török's work, affections due to the morococcus should be separated from acute eczema and classed with impetigo. Eczema is not a single disease, but a group of superficial infections which, on account of the failure of bacteriologists to recognize varieties of cocci, have failed hitherto of distinction. The cocci of eczema do not cause suppuration or general infection. Their separation may be founded on exact microscopical study and on the recognition of family forms, i. e., the appearance of coccic generations in the same membranous envelope. Unna distinguishes monads, diads, tetrads, octads, and hekkaidecads. Among all the species, 12 have no positive action and 11 are pathogenic. There are, however, two principal varieties of which one exists in half the cases of eczema. Its inoculation causes the essential phenomena in dogs; parakeratosis, spongy metamorphosis, edema, acanthosis and proliferation of fixed cells. It occasions a true eczema in man with vesicles and serous crusts. Among the dermatologists present, two opinions as to these findings were held, that the cocci were mere contaminations or that they played a part in the origin, in some cases necessary, in others important, the prevailing view.

GALLOWAY has studied cases of eczema at their first appearance and has cultivated white cocci which differ little from each other and which he considers varieties of the staphylococcus albus. These microbes may produce eczema when the skin is predisposed by a seborrheic condition or nutritional disorders. It then comes a favorable medium.

JADASSOHN has obtained cultures of staphylococci, aureus and albus, and twice out of three experiments the streptococcus. In the group of ordinary eczemas, there are no micro-organisms to be found; they are due to traumatic or general causes. He grants a series of eczematous reactions, some light and some serious, which may be of parasitic origin.

Following Kreibich and Török, BROcq and VELLON declare they found no microbes in the elementary vesicle, the essential lesion of eczema. It is invaded only later in its career and the organisms are ordinary ones found either on the skin of healthy persons or in the skin folds, in burns, syphilides, etc. MORGAN DOCKRELL goes even further, saying that the morococcus is only a staphylococcus which gains entrance through a fissure, is never found in a fresh vesicle, is a contamination in crusts and passes from them into deeper tissues and that the yellow staphylococcus can play no part in the causation of eczema because in cultures niade directly, it does not occur pure. SABOURAUD has found the lesions of vesicular eczema amicrobic. The process is an edema, sometimes diffuse, sometimes tending to vesiculation. Its infection is inconstant and should be considered secondary. Neither Unna's morococcus nor any other organism exists in the vesicle at its beginning.

As to the interpretation of these findings, Unna's view received little support. Neisser rejects Kaposi's doctrine that eczema is one and a well-defined disease and claims that there is a great number of affections susceptible of eczematization. Investigation seems to prove that the vesicle is sterile, but secondary infection is constant and plays a great part in subsequent development. Seborrheic eczema is a mycosis, not an eczema or a seborrhea. Brocq added that parasites give this affection its superficial aspect and form, but true eczema is not microbic. False eczemas occur due to eczematization of older lesions of various parasitic sorts or to secondary infection of a preceding amorphous eczema. Veillon has proved that an eczema disinfected and protected continues to spread under the covering and when inoculated, it is aggravated only by the addition of pustulation. Unna closed the discussion with the statement that he had studied chronic cases, Brocq, Veillon and Sabouraud, recent outbreaks and that their culture methods differed. The way out of the difficulty is to make cases and research accord as much as possible.

(To be continued.)

THIRTEENTH INTERNATIONAL CONGRESS OF MEDICINE.

SECTION ON URINARY SURGERY.

(Annales d. mal. d. org. genito-urin., p. 785, 1900.)

The meeting was opened by an address by President Guyon, followed by a
Resume of Report upon Conservative Operations in Renal Retention

—DR. KUSTER.

1. There are two groups of renal retention.

a. Primary retention, sacculated kidney.

b. Secondary retention, empyema of kidney following a pyelonephritis. The latter he omits from his report, as a radical operation is almost always necessary.

2. The name "sacculated kidney" applies to all primary retentions produced by obstacles to the flow of urine, irrespective of the contained material, which may be aqueous, urinous, purulent, viscid or pulpy.

3. Obstacles to the urinary flow are situated in the ureter, with the exception of some very rare cases, and most frequently in the upper one-third.

4. Renal retentions at the pelvis of the kidney should be treated conservatively; that is, with preservation of the kidney even in cases of integrity of the other kidney.

5. There are four groups of conservative procedure:

A. Fixation (nephropexy according to Guyon). It is necessary in many cases to combine this simple operation with other operations; detachment of the ureter or a plastic operation.

B. Formation of anastomosis between;

(1) Ureter and ureter (Kelly);

(2) Pelvis and ureter (Trendelenburg);

(3) Pelvis and bladder (Reisenger).

C. Plastic operations with and without resection of the ureter.

(1) Pyeloptychy (?) (L. Israel);

(2) Incision of the valves and transverse suture (Fenger);

(3) Resection of a closed ureter. Transverse section should be avoided, as a new stenosis may be produced. Oblique resection is preferable;

(4) Uretero-pyelo-neostomy (Trendelenburg and Kuster).

D. Partial resection of the kidney.

(1) Resection of the pelvis and suture (Albarran);

(2) Cuneiform resection of renal substance in case of horseshoe kidney with hydronephrosis.

DR. CHRISTIAN FENGER: Remittent or commencing retention (and, as a rule, every retention at its beginning is remittent) is a condition in which we should always consider the possibility of preserving the kidney-tissue by re-establishing the free flow of the urine.

The seat of the obstruction may be in the calices; in one of the branches of the ureter; at the bottom of the pelvis or the beginning of the ureter, or in the ureter itself.

If the obstruction be situated at one of the first two points it causes a local or partial cystonephrosis, and requires for relief of the condition bisection of the kidney from its convex border and division of the walls of the partition.

Stenosis at the pelvic orifice of the ureter (valvular formation, oblique implantation) requires operations varying according to the presence or absence of stricture in the upper part of the ureter.

If there is no stricture, the valvular formation may be corrected by a trans-pelvic operation (Fenger, Mynter, Trendelenburg, Küster) or by an extra-pelvic operation, which the author prefers.

If there is stricture of the ureter at the exit of the pelvis, as we may expect in cases of infection, we may do an extra-pelvic plastic operation (Fenger) or resect the strictured portion of the ureter with implantation of the ureter into the pelvis.

If the stenosis or obstruction is seated in the ureter, it should be treated according to the rule regulating surgical treatment of the ureter; resection and reimplantation, or the author's plastic operation.

Are the results of these operations permanent or are they subject to recurrence?

In 5 cases by the author there has been no recurrence.

(1) Valvular formation, trans-pelvic operation, no recurrence in six years.

(2) Stricture of upper part of ureter, extra-pelvic operation, no recurrence in six years.

(3) Valvular formation of the lower branch of the ureter, extra-pelvic operation, bisection of the kidney, division of the valve and of the walls of the partition; no recurrence during three years.

(4) Excision of a valve of the ureter (Fenger's operation; no recurrence in three years.)

(5) Stone in upper part of ureter, extracted by the author. One year later, plastic operation on ureter by another surgeon. Six months later complete occlusion of ureter at seat of second operation; after the Fenger plastic operation no recurrence in one year.

In 2 cases there was recurrence.

(1) Valvular formation without stricture, intra-pelvic operation, return of stenosis, occlusion of pelvic orifice; nephrectomy a year later.

(2) Patient operated upon by another surgeon, later by author; imperfect operation, no relief; nephrectomy later.

DR. BAZY: We say there is renal retention when urine remains constantly in the pelvis and calices by reason of an obstacle to its flow.

This obstacle may be situated in the ureter at any portion, from the pelvis to the bladder; it may further be located in the bladder or the urethra. The latter conditions are here omitted.

The obstacle may be due to stricture or a kink in the ureter, or a vicious insertion of the ureter, or to calculus.

(1) A bend in the ureter is probably always seated in the upper part. The study of this condition is in connection with movable kidney and with vicious insertion of the ureter into the pelvis.

(2) Calculi may lodge at any portion of ureter, but they are found generally at the upper or lower extremity.

(3) Strictures, likewise, as a rule, are found at the upper or lower extremity.

This stricture may be due to a lesion of the walls of the conduit or to inflammatory lesions of neighboring organs (perimetritis, perinephritis, etc.), and

giving rise to the production of cicatricial tissue surrounding the ureter and narrowing it.

This stricture always exists in cases of uretero-vaginal fistula—a point of importance to consider.

Renal retention may be intermittent, remittent, or continuous.

The first two forms belong to the two first categories; kinks, vicious insertion, movable kidney on the one hand, calculus of the pelvis on the other.

Permanent retention may be caused sometimes by calculi, but mainly by strictures, in which case the action is progressive and permanent.

An important distinction is whether the retention is aseptic or septic. The aseptic forms hydronephrosis, the septic comprises infected hydronephrosis and pyonephrosis.

Conservative operations are indicated only when the kidney appears capable of being of service, and is not a source of danger; in simple hydronephrosis, the indications is more positive, less so in infected hydronephrosis, absolute in case of only one kidney, no matter what its conditions.

Treatment varies according to the conditions present.

Calculi may be removed by nephrotomy, ureterotomy, or by a vesico-ureteral or a vagino-ureteral incision. This latter should be exceptional.

Kinking of the ureter may be cured spontaneously; it may be amenable to nephropexy.

Abnormal positions of the junction of pelvis and ureter are amenable to plastic operations, which are called uretero-pyelo-neostomy.

Uretero-pyelo-neostomy may be primary (aseptic hydronephrosis and some cases of infected hydronephrosis) or secondary (infected hydronephrosis and pyonephrosis).

Capitonnage (?) or resection of the pelvis is useless except in operations on primary cases.

Strictures are amenable to dilatation (exceptional); better are the anaplastic operations.

In aseptic cases for pyeloureterotomy, anaplastic operations may be by the transperitoneal or lumbar route in septic cases, the lumbar route to be preferred.

Uretero-vesical operations are made preferably by the transperitoneal route, median incision. Operations through the vagina have been rejected.

In all cases it is absolutely necessary to relieve the stricture.

Infection of the ureter and pelvis is not a contraindication to operation.

Abscess of the kidney is a contraindication to any form of plastic operation.

The results of operations which date back seven years for the earliest operation show that the conclusions above expressed may, and should, be adopted.

Conservative Operations in Renal Retention. —PROFESSOR ALBARRAN.

Contrary to the views expressed by Professor Kuster, the speaker believed that it was of use to distinguish between pyonephrosis and uronephrosis. This distinction is based upon the pathological anatomy, the pathogeny, the symptomatology, as well as upon the treatment of these two varieties, purulent and aseptic, of renal retention.

In renal retention, the causal lesions of which exist in the kidney itself or in the beginning of the ureter, the obstacle to the free flow of urine by the

ureter, varying according to the case, requires a different procedure if we propose to preserve the kidney or prevent the formation of renal fistula.

In the simplest cases, removal of calculus or correction of a bend in the ureter may suffice for the urine to again assume its normal flow. Even in these cases it is necessary to assure ourselves that secondary lesions are not present to threaten a new obstacle (as stricture, etc.).

In other cases lesions may exist, as primary cause of the retention or consecutive to the retention, which necessitates special procedures. These lesions are situated in the renal pocket itself or in the upper portion of the ureter.

In the renal pocket, internal partitions which have been incompletely divided during a nephrotomy, may cause persistence of fistulæ; it is necessary to destroy these partitions in order that the renal pocket may not present any diverticulæ. This causes him also to differ with Dr. Bazy, and he believes that in all pyelo-ureteral operations it is well to incise well the kidney in order to thoroughly explore the pouch.

The ureteral lesions are the most important. We may distinguish: (1) a too high insertion of the ureter into a dilated pelvis; the portion of the pouch below the ureter cannot be drained by its proper canal; (2) oblique insertion of the ureter into the pocket with the formation of a valve, preventing draining of the urine; (3) permeable or impermeable stricture of the beginning of the ureter, with or without a kink in the conduit.

Often these different varieties combine in a diverse manner; sometimes we may find other strictures lower down in the ureter.

For a diagnosis of the exact seat and nature of the ureteral obstacle a cystoscopic catheterization of the ureter just before operation for renal retention, whether septic or aseptic, is of use; if the indication exists for an immediate ureteral operation, the catheter in place greatly facilitates operative procedures.

Complicated operations looking to the re-establishment of the course of the urine may be done at one sitting in aseptic or but slightly infected renal retention; in pyonephrosis it is better to operate at two sittings, and to reserve these operations for the cure of the fistula following a nephrotomy until after the local and general conditions of the patient have become modified.

In some cases of pyonephrosis, previous lavage of the kidney may modify the contents of the pouch and permit at one sitting a uretero-renal operation. The speaker had thus done a uretero-pyelo-anastomosis with success in a case of pyonephrosis.

The ureteral catheter placed *à demeure* may suffice to re-establish the normal course of the urine, notably in simple and permeable strictures of the ureter. Cutting operations are indicated after the ureteral catheter has failed.

Section of a spur (Bardenheuer, Fenger) formed by adherence of the wall of the pelvis to that of the ureter may be found indicated in high insertions of the ureter, with or without valvular formation. This operation is no longer indicated: (1) when, after section of the spur, a portion of the pouch still exists below the ureteral opening; (2) when the ureteral obstacle is situated below the spur.

Capitonnage or resection of the renal pocket (Israël-Albarran) may be useful in small pockets to reduce their capacity; more often it will only be useful as a complementary operation to another procedure.

Partial resection of the kidney (Albarran) in one case gave a good result

where section of a pyelo-ureteral spur had been made, in order to obliterate that portion of the pouch below the new ureteral orifice.

Uretero-pyelo-nephrostomy (Bardenheuer-Küster) and pyelo-ureteral anastomosis (Albarran) may be applied in all the preceding cases. The second procedure gives as good results as the first; its execution is easier. It consists, after having placed a catheter in the ureter, if possible, in opening widely the renal pocket and making at its most dependent point an incision, the two lips of which are sutured to that of another longitudinal incision made in the ureter; a catheter *à demeure* is placed in position immediately, which emerges from the urinary meatus while the superior extremity passes up to the kidney through the anastomosis.

He has practised 6 uretero-renal operations successfully for aseptic and septic retentions, or for fistulæ consecutive to nephrostomy. His earliest operation dates back 27 months; the patient remains well.

In a case where the kidney had been fixed to the anterior abdominal wall by a transperitoneal nephrostomy he had a failure. In a patient with grave pyonephrosis he made an external ureterotomy at the same time that he incised the kidney; patient died.

DR. KÜSTER believed that he was misunderstood by Albarran, in saying that he did not separate the different causes which form renal retention. On the contrary, he insisted on the importance of separating them even in the denomination of them, as suppuration of the pelvis by pyelonephritis (empyema of the pelvis) from suppuration of a hydronephrosed kidney (pyonephroses). After listening to the discussion he could not change his views.

M. ALBARRAN favored his method of uretero-pyelo-anastomosis, but the speaker feared that this would only produce the sort of dead space so favorable to the deposition of urinary crystals. A portion of his patients thus operated upon will probably not remain cured long.

He did not agree with him as to drainage of the ureters after plastic operations. If we operate for a pyonephrosis the suppuration may quickly disappear, provided the suture is good and the flow of urine unimpeded; on the contrary, a foreign body like a drain will keep up suppuration a longer time and it is unnecessary to state that this may have its drawbacks.

DR. HARMONIC reported a case, under his care, of absolute retention of urine in which, having found the bladder empty, he catheterized the left ureter without obtaining any urine at first; but a prolonged bath favored a flow of urine of about 4 liters and the patient quickly recovered his normal equilibrium. No sign of renal ptosis could be discovered and he concluded that a ureteral spasm favored, perhaps, by a mass of uric-acid gravel in the left ureter, was the cause of the retention.

DR. LEGUEU was a partisan of conservative operations in renal retentions, but these operations had their indications.

They should be done early; that is, preceding the destruction of the kidney. In hydronephrosis of large dimensions, when the kidney is excessively distended and contains, as did a case on which he had operated, 3 liters of urine, he believed it was better to remove the kidney, the more so as the other kidney is generally healthy.

In the beginning, catheterization of the ureter permits us to treat and sometimes cure small renal retentions; as his own experience has taught him. But in

the larger cases of retention, it serves only to help diagnose and locate, the ureteral obstacle. He has in vain tried to treat a voluminous hydronephrosis which he was obliged later to operate upon. Although the catheterization was easier, the fluid was reproduced in the intervals of catheterization and on the other hand the kidney may become infected after placing a catheter *à demeure* up into the pelvis.

He believes, however, that in large hydronephroses it is better to resort at once to operation without attempting to treat by catheterization. In retentions which are septic, the conservative operation should be preceded by nephrostomy.

In the performance of the operation, the abdominal and the lumbar route have been followed. By the abdominal route we may, perhaps, gain more room, but if there is an infection we court the risk of infecting the peritoneum, as happened in one of his own cases. By the lumbar route, on the other hand, we escape this fear and the maneuvers are all just as simple.

As to the choice of operation, that is controlled by the nature and seat of the obstacle; he prefers lateral to terminal anastomosis.

In one case he performed uretero-nephrostomy; in another, utero-pyclostomy; he does not leave the catheter *à demeure*, and makes sure of his union by two tiers of interrupted catgut sutures.

PROFESSOR ALBARRAN: The objections of M. Küster seemed to him pertinent. The portion of ureter above the anastomosis is almost always obliterated, and no longer gives free passage to the urine; consequently it could not be the place for the formation of calculus. On the other hand, if we fear it, it is easy to resect that portion of the ureter above the anastomosis, which is really to become useless. Anastomosis holds this great advantage over the implantation of the completely severed ureter, in that the operation is easier and surer in result.

The ureteral catheter left *à demeure* after uretero-renal operations has the same advantage that the ureteral catheter gives after resection of the urethra; it prevents the urine from coming in contact with the sutures, of special advantage is this in the infected cases. Ureteral drainage permits further the practice of lavage, which can medicate the pouch. Among patients operated upon and cured by this method several have gone more than a year, and one has gone 27 months without recurrence.

Further, during operation, the catheter aids in the finding the ureter, a very difficult affair in pyonephrosis, and, thanks to its use, we may, if the ureter is permeable, see in the interior of the renal pocket the point of emergence of the ureter and judge of the better procedure to employ.

In answer to Leguen, he would say that in case of large hydronephroses, nephrostomy, aided in certain cases by *capitonnage*, diminishes markedly the volume of the kidney and permits the performance of a secondary uretero-renal anastomosis, which preserves the kidney.

We cannot seek complete cure by ureteral catheterization of large hydronephroses or pyonephroses, except in unusual cases; in renal retentions, the ureteral catheter serves to make diagnosis more precise and facilitates operative procedures. After operation it is undoubtedly useful in infected cases, as the speaker's experience shows.

Determination of the Congealing Point of the Blood and Urine in order to Ascertain the Function of the Kidneys.—DR. KUMMEL:

The work done by A. Von Körányi and others, the author included, has estab-

lished the fact that the congealing point of the blood in a physiological condition remains at a fixed point.

The normal human blood has a congealing point at -56° C. below that of distilled water. Variation from -55° to -57° are within physiological limits. Lowering of this point to -58° to -60° , or thereabouts, shows us that the two kidneys are functioning imperfectly; that there is insufficiency. Operation should not be performed until the degree of congelation approaches -56° .

In more than 70 cases in which he was able to ascertain integrity of the kidneys, he found the normal point of congelation at -56° , with rarely even a slight variation.

If the elimination of the nutritive changes takes place in a sufficient degree, the blood congeals at -56° , and may be looked upon as a sign that the kidneys are functioning properly.

From the moment that the function of the kidneys does not suffice for nutritive changes, the products of decomposition increase the molecular concentration and the congealing point goes below -56° .

In all the cases examined or operated upon by him, the same observation has been made; tumors, pyelitis and pyonephrosis, tubercular kidneys, internal kidney disease, parenchymatous and interstitial nephritis, contracted kidney, etc.

In 10 cases of double affection of the kidneys: cyst of the kidney, anuria following laparotomy, cancer, amyloid kidneys, renal hematuria, etc., the congealing point varied from -60° to -65° ; in one case was even -71° .

In 2 cases of bleeding from the kidney, it was ascertained by ureteral catheterization that normal urine came from one side, while bloody urine came from the other, a fact pointing to unilateral tumor; still, though operation did not take place, the congealing point of the blood was found at about -60° . Later, both died of interstitial nephritis with bleeding.

With one kidney functioning sufficiently, we should always have the congealing point at -56° .

In 11 cases for operation for nephrectomy (for tuberculosis, tumor, renal calculi, suppuration, etc.), the congealing point before operation was found to be -56° , from which assurance that kidney function was normal was gathered. After operation the congealing point was unchanged. In one case only where the left kidney was attacked by a paranephritic abscess, a fistula remaining after the incision, the congealing point fell to -59° . Gradually, after four weeks, the patient had gained strength and the congealing point mounted to -57° (?). Operation for the fistula was without incident. The other kidney functionated perfectly. Degree of congelation, -57° .

Lowering of the congealing point of the urine gives us an indication of the quality of the urine. Lowering of this point below -9° shows renal insufficiency. The degree of congelation of the urine varies from -9° to 2.0° .

We can gain greater precision if we obtain urine from each organ separately by ureteral catheterization.

In pyelitis and other maladies where the kidneys do not participate, the congealing point of urine taken from each side is nearly the same; for example, urine from right: 0.36, 1.70, 1.01; left: 0.42, 0.72 (?), 1.02.

Where a single kidney is attacked, as was ascertained after operation, the difference was greater. In 3 cases of pyonephrosis, affected kidney: 0.19, 0.14, 0.37; normal kidney: 1.75, 1.03, 1.33.

By ureteral catheterization the secretion from each kidney could be exam-

ined in every fashion. The author has observed that each kidney functionates independently of the other.

By the method of Beckmann, the determination of the congealing point of the blood is not difficult, and generally suffices. In doubtful cases the separate urine from each kidney is necessary for a good diagnosis.

Indications for Nephrectomy in General and Especially in Malignant Tumors of the Kidney.—DR. D'ANTONA.

1. In suppurating pyelonephritis it is not always necessary to have recourse to nephrectomy; sometimes simple nephrotomy suffices, which may in certain cases be curative or prepare better conditions for a nephrectomy.

2. We should proceed to a primary nephrectomy when we have reason to believe in the destruction or degeneration of the kidney by an ancient process, and at the same time the operation proves easy in execution.

3. The lumbar route is to be preferred.

4. Seek to obtain union by second intention. According to the above precepts 19 patients were operated upon from 1888 to 1899, 15 successful.

Tumors.—Renal tumors are of the most complex structure, as the kidney and the suprarenal capsule are organs to which the endoderm, the mesoderm, the ectoderm, and the mesenchyma contribute at the same time.

Anatomically, the tumors are divided into mixed and simple. The former are congenital or infantile; they have a complex structure, because they are derived from all the embryonic elements.

Simple tumors ordinarily occur in adults and are constituted of and derived from one of the differentiated tissues, and are fibromata or epitheliomata. The combination of the two forms is rare.

Clinically, these tumors are benign or malignant, as in all the other anatomical situations. After the fibroma and sarcoma, the epithelioma and cancer are the most malignant; just as the lipoma and adenoma are the most benign.

In general, adenoma is the initial form, which is succeeded by epithelioma; operation can only be definitely curative when performed early.

Nephrostomy in Anuria Caused by Cancer of the Uterus.—DR. NANU.

Investigations in Catheterization of the Ureters.—DR. LEOPOLD CASPER.

Since the progress realized in the diagnosis of kidney maladies by means of catheterization of the ureters, which was invented by the author, Casper and Dr. Richser have recently utilized the test with phloridzine, in conjunction with the urethral catheter. Catheterization is made with the cystoscope, the urine being collected from each kidney simultaneously.

The rapidity of the elimination of the sugar permits the leaving of the catheter in place for only one-half an hour to an hour, which simplifies the operation markedly. Normally the two kidneys eliminate during the same time exactly the same amount of sugar, and, in a general way, the elimination of glucose is proportional to that of the urea and to the molecular concentration of the urine. The authors conclude from their important researches that the phloridzine test is the most delicate reaction with which to determine the state of the renal function.

The Ureteral Catheter a Demeure in Preventive and Curative Treatment of Renal Fistula.—PROFESSOR ALBARRAN.

Urinary fistule following nephrotomy are due exceptionally to the fact that

unsound kidney tissue cicatrizes with difficulty (tuberculosis, certain forms of kidney lithiasis). In almost all the cases the persistence of the fistula is due to the fact that the urine does not have a free flow through the ureter, and it closes only when this conduit has become easily permeable.

Spontaneous cure of fistulae following nephrostomy for pyonephrosis is to be expected, only after months or years. It is the consequence, outside of total destruction of the kidney, of a complex mechanism. On the part of the kidney the pouch contracts and the liquid which it contains becomes more fluid; on the part of the ureter, the inflammatory process subsides and the caliber of the canal is, in part, re-established.

Definitive persistence of fistulae may be due to permeable or impermeable stricture of the urethra, with or without kinking, or to a vicious insertion of the ureter into the renal pocket.

The author believes that by means of the urethral catheter *à demeure*, we can prevent the formation or hasten the cure of fistulae which get well after a variable delay. He believes further, that a certain number of fistulae which do not close spontaneously and are due to permeable strictures of the ureter may be made to close by this means, and he reserves uretero-renal operations for those cases where ureteral drainage proves useless.

Preventative Treatment.—This consists of introducing a large catheter into the ureter at the time nephrostomy is performed, having the upper end in the pelvis and the lower extremity passing out of the meatus. Having incised the kidney he passes a small catheter up the ureter, bringing it up to the kidney. When the renal pocket is opened, he uses this catheter as a guide over which he passes a 10 or 11 catheter from above downward.

When ureteral catheterization cannot be done, we may succeed in finding the ureteral opening into the pocket and from there pass a catheter to the bladder. The catheter may be seized in the bladder with a lithotrite and be brought out by the meatus. He has thus succeeded in 2 cases.

While the catheter is in place the kidney is drained as ordinarily by the lumbar wound. On the following day lavage of silver nitrate or boric acid may be done through the catheter and the drains.

The lumbar drain is removed on the average after a week, and after a few days the urine passes by the catheter, which also serves for lavage, and may be removed a few days after the flow from the lumbar wound ceases.

He has operated by this means on 7 cases of pyonephrosis, and obtained complete cure without fistulae after three or four weeks.

Curative Treatment.—When a urinary fistula is already present he introduces a 6 or 7 catheter as far as the pelvis. Often from the first day all the urine will pass through the catheter. Some days later a larger catheter replaces the first; this he introduces with a stylet, gradually increasing the size up to No 12. After the lumbar wound is well cicatrized, he removes the catheter. In this way he has succeeded in curing a fistula in two cases in from 15 to 20 days. In two others the fistula closed well but withdrawal of the catheter was followed by renal retention, demanding a uretero-renal operation.

Ureteral drainage thus done will not succeed unless the catheter can be made to penetrate as far as the interior of the pelvis. It fails further if the ureter is inserted too high above the renal pocket.

He agrees with Casper as to the value of the phloridzine test.

Selections.

CUTANEOUS DISEASES.

Clinical and Pathological Observations on Some Early Forms of Epithelioma of the Skin.—J. A. FORDYCE, M.D. (*N. Y. Med. Jour.*, vol. 71, 1900, p. 889).

The early recognition by the physician of an epithelioma upon the skin is of the greatest importance to the patient. It has to be differentiated from syphilis and tuberculosis. Mistakes in the diagnosis of the affections in question are perhaps not so surprising when we recall that both syphilis and lupus are at times followed by the development of malignant disease.

The microscopical examination is imperative. Great stress is laid by the author upon the features of epithelioma in their early stages. The growths may for years show no tendency to break down or extend, presenting small, hard yellowish-white or pearly-gray nodules usually on the faces of middle-aged individuals. They are often multiple and sometimes show a slight central depression. Under certain unknown conditions, however, the centre of the nodule atrophies or ulcerates, while extension at the margin takes place, giving rise to open epitheliomatous ulcers which pursue a chronic course.

Histologically such tumors are made up of small epithelial cells extending in branching processes throughout the connective tissue of the skin.

In one case of this variety the author found the typical structure of an adenoma of the sebaceous glands. Outside of these pearly tumors there can be encountered upon the skin a second variety of epithelioma, presenting in its early stages a brownish-red tubercle of hard or rather soft consistence which may be elevated a quarter or a third of an inch above the skin level and attain the diameter of half an inch before breaking down. The skin covering such a tumor is quite smooth.

Such tumors, according to the author's observations, break down readily under the curette and if so removed before ulceration sets in no recurrence takes place at least for several years, although there is a possibility of a recurrence and of a malignant tendency in later years. The presence of multiple lesions cannot be considered as a symptom of this variety as the author reports a case—the first described—where only a single tumor existed.

The importance of removing these tumors before ulceration sets in is emphasized by the fact that when such tumors begin to grow excision or irritation hastens their development.

Certain analogies exist between these epithelial tumors and some of the congenital warts and moles. Sometimes independently of any antecedent congenital formation, cancer will develop upon some morbid senile change in the skin.

The seborrheic wart, pigment deposits, papillomata, localized dilatation of the blood vessels, atrophy of the sub-cutaneous fat and connective tissue are frequently the starting points of a malignant transformation. This is not confined exclusively to elderly people. There belongs xeroderma pigmentosum which ordinarily occurs in the young and which has been called by Hutchinson a precocious senile condition of the skin. In the same group stands sailor's skin, which

has many points of resemblance—primary vascular changes, pigmented areas, warty growths and malignant neoplasms—to xeroderma pigmentosum.

Then the author considers the development of cancer upon a syphilitic and lupoid basis, carcinomata of the coil ducts, Paget's disease of the nipple and epithelioma of the lip.

In the author's opinion the cause of carcinomata of the skin cannot be ascribed to a specific agent. The various diseased conditions of the epithelium, its prolonged irritation resulting in disturbance of the physiological changes in cornification, underlying alterations in the connective tissue stimulating its growth and diminishing the resistance to its downward development are important factors which should not be lost sight of in the modern tendency to attribute these growths to an external parasite which has gained access to the cells.

We have to do with an infectious process, it is true, but one in which the agent producing the infection may be the actively growing cells of the parent tumor. We must not forget that each cell has within itself the possibility of division and subdivision and when detached from its parent tissue may pursue a parasitic existence, excite the connective tissue to proliferate and attract an outpouring of leucocytes and by cell metabolism produce toxic products which give rise to the known symptoms of intoxication met with in late stages of generalized cancer.

Some Clinical Observations on Lupus Erythematosus.—J. A. FORDYCE, M.D., AND O. H. HOLDER, M.D., of the University and Bellevue Hospital Medical College (*Med. Rec.*, vol. 58, 1900, p. 41).

The authors discuss the various theories regarding the cause of lupus erythematosus. From the consideration of the literature of the subject and their own experience they are inclined to associate the outbreak of the disease with tuberculosis, either in the form of a generalized tuberculosis or in the form of an extracutaneous tuberculous focus, which may be the source of toxins capable of producing lupus erythematosus.

Dr. Holder then gives the result of his microscopical examination of over one thousand sections, obtained from tissue excised with the Keyes circular punch from patients suffering with the discrete form of the disease. The best results he obtained by using Unna's acid orcein stain with nuclear stains.

Three groups, which make up the histo-pathological complex of this affection, namely: (a) the round cell infiltration; (b) the peculiar degenerated condition of the connective tissue, and (c) secondary atrophy, are considered by the author and enabled him to arrive at the conclusion, that lupus erythematosus is a disease in which the blood supply is interfered with.

The most interesting of all the pathological changes is the condition of the vascular system. The author for the last two years specially studied this question with the express purpose of verifying the existence of obstructions in the vessels, which are ever present, in the early lesion, namely the mantling infiltration of the capillaries and the infiltration of their calibre—an evidence of an abnormally light pressure. Then the vasomotor theory of the cutaneous vessels comes into consideration; the author does not question the correctness of this theory, but does not accept the inferences drawn from that theory.

The control of heat in warm-blooded animals is placed in the dermic blood supply. In giving that control to the differentiated arterial walls, as the modern vasomotor theory does, not only is the seat of action removed from the upper

corium but the main muscles of their skin are completely neglected. In the well known experiments on the rabbit's ear, dilation follows the cutting of the sympathetic nerve. The question is, does this nerve go to the vessel walls or to the unstriated musculature of the corium; and is the secondary contraction the result of a return of the arterial tone or a filling of the lymph spaces and the closing of the walls of the artery by the equalization of lymph and blood pressure.

The author places the lymph pressure under the control of the muscles which run diagonally from the deep corium toward the surface, though the entire connective tissue is concerned in its maintenance. It is clear that any interference with their contraction must mean the loss of lymph pressure. Following out the possible variations, it is clearly seen that relaxation of either the muscles or the connective tissue would cause dilated lymph spaces and diapedesis and although there might be a paralysis of the muscle from a toxemia affecting the vasomotor centre, it is more likely that it is the connective tissue which is concerned and which is very early involved in lupus erythematosus. If the swelling of the cartilaginous tissue means loss of function it is possible that the infiltration is secondary to it, and the chemical change may be the result of toxemia and hence tuberculosis.

The Nature of Some Epithelial Growths and Their Treatment with Formalin.

—MARTIN F. ENGMAN (*Medical Review*, vol. 41, 1900, p. 405).

A group of skin affections, verruca vulgaris, condyloma accuminatum, verruca senilis (one case), epithelioma and rodent ulcer and tuberculosis verrucosa cutis (one case) has been treated with good results with local applications of formalin.

To obtain satisfactory results in verruca vulgaris and condyloma accuminatum the thickened horny layer in the former is to be removed with 20 per cent. salicylic acid plaster and any fat present dissolved by benzine in both affections previous to the application of formalin. In verruca a formalin swab is allowed to remain on the place for a few moments. A slight burning is experienced, but is much less painful than the usual methods. One or two paintings are sufficient to effect a cure according to the writer's statements. The same procedure is followed in condylomata accuminata when situated on the scalp or body. Even in cases of condylomata accuminata on the genitals the author used pure formalin covering the adjacent mucous membrane with a film of vaseline before the application. Only slight pain is experienced. Formalin cannot be used when the condyloma is upon the eyelid or canthus. Epithelioma and rodent ulcer were cleaned with peroxid of hydrogen and cocaineized, then carefully dried and painted with pure formalin, particular attention being paid to the borders. Then the surface was quickly covered with a 1 per cent. carbolyzed vaseline. Very little pain is experienced; no crust forms under the vaseline. This procedure is repeated until complete healing is accomplished. In the author's experience formalin proves to be very penetrating, more rapid and less painful than other caustics.

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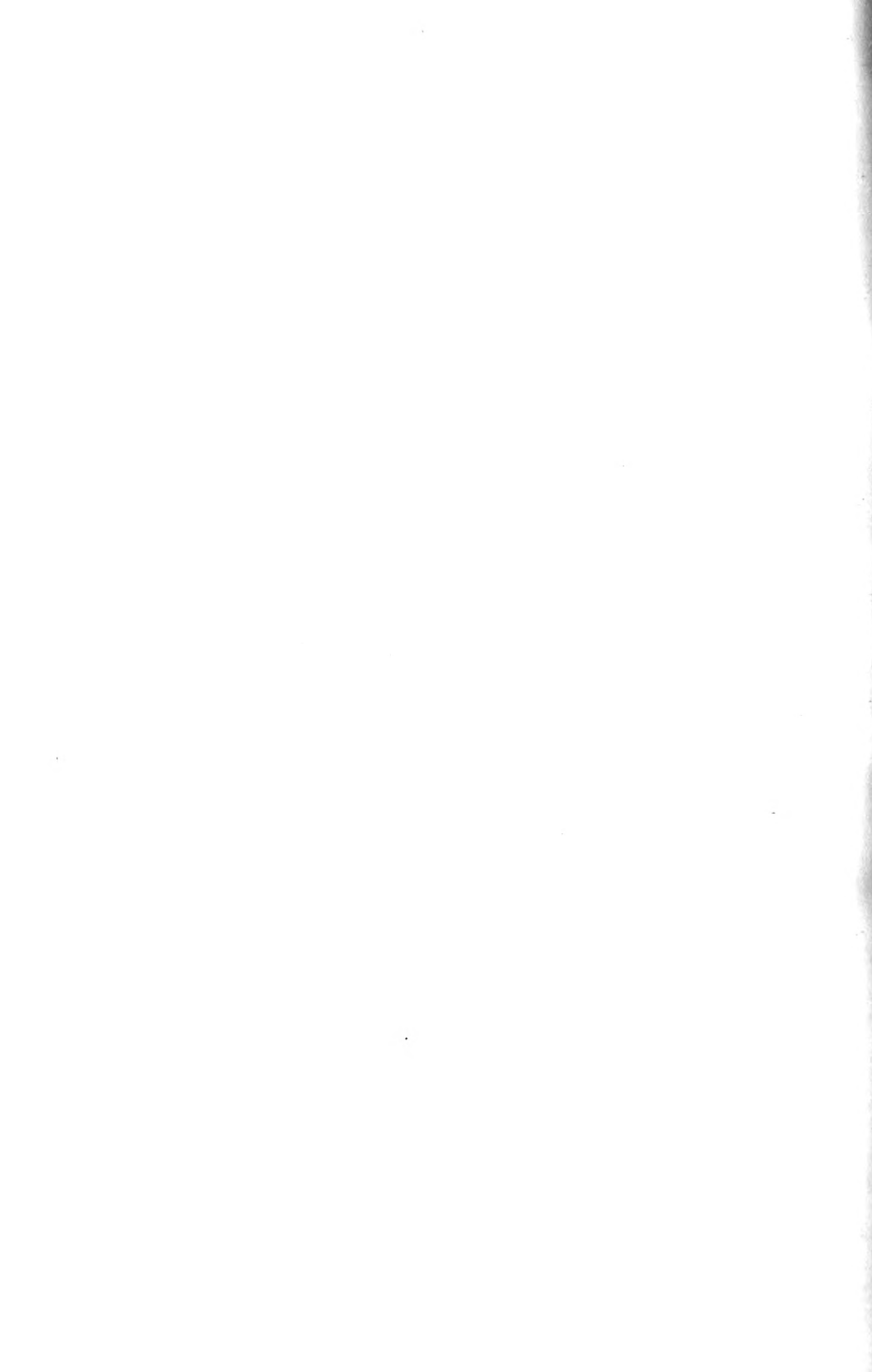
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